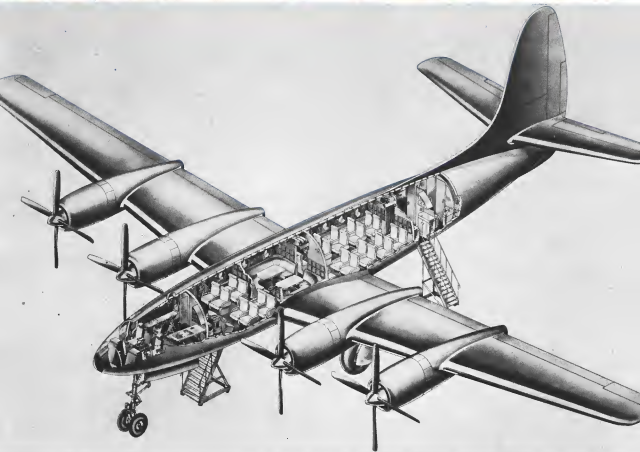


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

SEPT. 3, 1945



Republic's Bid for Transport Market: *The Rainbow, 40 passenger plane proposed by Republic Aviation Corp., has speed above 400 mph, and pressurized cabin for high altitude flights. It is powered by four Pratt and Whitney Major 3,000 hp. engines and booster using exhaust to provide jet assist which adds 200 hp. to each engine. (Story on Page 16.)*

West Coast Air Plant Planning Trends Are Listed

First year employment seen climbing to 100,000; preliminary designs for jet transports being "polished" for airlines.....Page 7

North Pacific Route Is Recommended For NWA

Report would give Pan Am other share of trans-Pacific air travel by extension of its existing routes.....Page 42

Haphazard Operations Stifle Progress, Says Geisse

Poor service to customers seen behind rising public opposition toward small bases for private pilots.....Page 18

Engine Industry Threat Seen In Surplus Problems

Estimate of about 100,000 new powerplants headed for war fronts at time of peace announcement creates disposal problem.....Page 9

Leased War Plane Factories Assume Vital Peace Role

Vastly expanded aircraft manufacturing structure seen making government-owned facilities essential for most firms.....Page 32

See Radical Fuel Shift For High-Altitude Transports

High boiling point "safety fuel" and fuel injection to make proposed upper-air flights called economically sound.....Page 47

Better Control

OF HYDRAULIC POWER BRAKING



These valves have true "hydraulic feel" . . . the resistance to brake pedal movement is hydraulic and directly proportional to the pressure in the brake. In the event of pressure or brake failure, the pedal is depressed without appreciable force thus giving the pilot instant warning of pressure loss. The time interval between pedal movement and brake application (or release) is minimized thus giving the immediate brake action which eliminates the tendency to overbrake.

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THE AVIATION NEWS

Washington Observer



ANNAPOLIS AIR—There is a definite indication of Navy thinking in the viewpoint of the new superintendent at Annapolis, Vice-Admiral Anthony W. Rich. The admiral is well-known in aviation circles and his remarks may have joined the deep-sea admirals, but they came as a refreshing breeze to the aircraft industry when he said that after this year every man who is graduated from the Naval Academy either is going to become an aviator or is going to have a lot of knowledge of, and a great respect for, air power.

SPECIAL TOOLS—Approaching the vital tool situation from another angle, the Serpents Property Board, in a move to minimize unemployment caused by the closing of war plants for reconversion, has amended its regulations to permit the rapid sale or lease of special tools—a move which should be of special benefit to the aircraft industry. The amendment permits to these tools located in conversion plants and the order extends this to government-owned plants in the aircraft industry.

EXPERIMENTAL MODELS—All restrictions on the utilization of manpower for the development of experimental models have been rescinded, an action which the aircraft industry can put to good advantage. Before, a regulation prohibited the diversion of manpower engaged in war work to research or experimental models.

ENEMY TECHNICAL REPORTS—Some 11 reports on enemy technical developments are being cleared by the War Department, but thus far none have been on aviation. Those the department has on aviation, they are still keeping on the secret list and the carefully screened reports which will be released

to the public won't be ready for about six weeks. Army secret lists, now that the war is over, are casting some "vicious eyebrows" in Washington.

CAP AND APL—Speculation on the future of the Civil Air Patrol is taking a new tack. One of the latest reports indicates CAP will effect a working arrangement at some future date with the Air Power League. It is said CAP will establish a personnel office at Columbus, Ohio, to which will be transferred all lines of members and recruits. APL later would take over that office and use the lists. Persons aware of this purported plan are questioning the legal aspect of such a line—which is government property—being made available to a private organization.

SECRETS REALLY SECRET—Almost unnoticed in the flurry of comment regarding the end of Lend-Lease is that it officially heralds the end of the wartime alliance of the U. S. with other nations. This alliance, also, an end to a free exchange of military data. It is not being publicized, but this country already has stepped revealing latest military technological developments including aviation projects to its wartime allies. This policy can also be detected in the keeping of all atomic bomb details in this country.

OVERTIME HALT—Aircraft contractors of the Army and Navy are being notified that the two agencies will not authorize payment of overtime on cost plus aircraft contracts after Sept. 1. This factor will tend to make more difficult the problem of an aircraft company in retaining personnel. Several aircraft plants have reverted to the 40-hour week well in advance of the Sept. 1 deadline. Among the fast companies to do this were Douglas at El Segundo and Grumman at Bethpage.



Japanese surrender plane marked with green crosses as ordered by General MacArthur.



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THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIP

'Coast' Air Plant Planning Trends Listed; Jobs Ready

First year employment seen climbing to 100,000; preliminary designs for jet transports being "polished" for airlines; exploration of personal plane market hinges on Lockheed; other-than-aircraft production slight.

By SCHOLER BANGS

Here are the post-war trends of the West Coast's aircraft industry, as represented by seven major manufacturers:

► Preliminary designs for high-speed, high-altitude, long-range jet transports are being polished and shown to airline engineers as models which reasonably can be in production within another five years.

► Immediate production of already-announced commercial transport types will enable factories to establish within the first VI year production organizations employing a total of between 70,000 and 100,000 workers.

► Unless Lockheed, already testing an experimental prototype, breaks the ice the major companies will have to smaller concerns exploration of the personal airplane market. They will want a positive public reaction to personal plane ownership, more realistic than questionnaire surveys, before plunging.

Consolidated Vultee Aircraft Corporation at San Diego may be expected to go heavily into cargo aircraft designing and manufacture in the belief that demands for freighters will exceed, sooner than many may believe, the market for transports designed primarily for passenger service. Convair's Division should be ready soon to announce at least one new personal aircraft model to follow its current lightplane design.

North American Aviation, which at present has no intention of abandoning its existing home factory at Los Angeles Airport, may be expected to enter commercial manufacturing. Company officials up to now have denied any inten-

tion of post-war production of other than military aircraft. Top-engineers are believed to have begun an intensive sifting of several logical commercial designs. Do not look for this company to show the slightest interest in airplanes as they fly today. If it does enter commercial production the emphasis will be on jet and high speeds.

Douglas Aircraft Co. momentarily will be kept busy getting its DC-4, DC-6 and DC-7 models into production, and in emphasizing its position as a logical builder of military cargo and personnel transports. With these planes the company will seek to extend, in a

Surplus Total

A total of \$3,743,000 in items peculiar to aircraft have been declared surplus in the European and Mediterranean theaters of operations.

Army-Navy Liquidation officials said that most of this equipment is for non-combat type airplanes and that approximately \$1,500,000 is in parts for Pratt & Whitney engines.

► Navy Part—A small quantity of naval items are included in the total, mainly accessories, propellers, wheels, electrical components, aircraft hardware and special tools and equipment.

▼ More competitive market, the post-war position is gauged with the DC-3. Douglas will test experimentally jet engine installations in its planes, but will depend upon gradual refinements to keep its standardized models selling. The company also will lean heavily upon the business-getting offer to airlines, the company's No. 1 peacetime customer, of customer



RESONANCE JET:

Co-designer A. J. Kline, left, holds the model of the resonance jet engine developed by himself and W. B. Goodman, right. Center is G. M. Glavin, head of the engineering firm experimenting with the resonance model that develops two pounds of thrust and has the roar of a 1,500-hp. reciprocating engine.

economy and military defense.

On Congress would tell the disposal agencies to store the engines for reserve or for metals recycling except in either case, of course, engines actually needed for present operation would be allocated.

Industry — Another possibility, for which the manufacturers are striving, is the rapid obsolescence of current fighters. This could be brought about through improvements in fuel or design in piston engines, or by unexpectedly early application of turbine and jet power in anticipated slow development engines. This would not afford the necessary present relief.

Certification of military engines by the Civil Aeronautics Administration for civilian use is an important factor. Both CAA and the Army and Navy run 150 hour tests which are substantially the same.

CAA can accept military data as a basis for certification or approval of a few units. This can be done even though the manufacturer is opposed to it, but the manufacturer's attitude is a strong influence in the operator's decision whether to buy the engines.

Types Approved—So far CAA

has certificated the R-2600 in the C-46, the R-2600 in the C-54, the R-1820-82 in the DC-3 type, including the C-47, and possibly one or two others. But these are essentially civilian engines. The certification of converted military engines would be too much of an undertaking for small purchasers, and is not an advisable prospect for anyone other than engine manufacturers.

Two Allison have been approved on a Douglas transport, and apparently no other combat engine approvals are on record. If the prospect of approved used military engines, the big losses are confined, incomplete, or missing, the engine must be completely overhauled.

Debate over the convertibility to civil use of combat engines, however, is largely secondary. In general the changeover would be complicated primarily by their superchargers, especially the two-stage geared type. Nevertheless, and the engine can be done satisfactorily. But the point is that conversion is out of the picture because of the vast supply of non-combat types.

By-Listing—In the category of 300-hp. and less, no less than 79,000 units, many of them desirable for helicopters, were distributed in the four-year period mentioned. In the 399-1,000-hp. class, extremely used in feeder and non-scheduled services, the total was nearly 85,600. In the light-duty 1,000-1,499-hp. transport class, the total was 248,000, and in heavy transport, 1,894-hp. and over, 201,348 engines were delivered. In addition, there were 104,203 liquid-cooled plants, which are requested by many engineers to be serviceable in transport work.

Experts disagree whether engines can be shipped here from overseas at a cost less than value for scrap or even for resale. They disagree also whether such engines can be salvaged (dis-assembled) for parts and components. Undoubtedly new and unused engines and those installed on long-range planes will be returned, if available, to the factory. Credit for all proposed non-aircraft applications of aircraft engines.

Canadian Warplane Disposal Speeded

Speedy disposal of Canadian warplane surplus is planned by agencies working in the dominion. All aircraft and spare engines, after overhaul by the purchasers, will be eligible for certification of airworthiness from the Canadian Department of Transport.

J. H. Berry, president of the Canadian government's War Assets Corp., said this equipment would be marketed as soon as possible. Plans are now underway to accelerate the disposal of aircraft, engines, and serviceable airplane equipment and instruments.

Less Choice—Under a program recently announced at Ottawa, commercially unsuitable technical equipment and material, declared surplus by government departments, and turned over to WAC for disposal, are being made available to non-profit educational institutions in Canada on the basis of indefinite loan.

Unserviceable aircraft and unsuitable air engines and other aviation equipment and instruments are included. A number of universities and schools are now negotiating with WAC for this equipment, which includes engines and components, carburetors, magnetos, starting motors and governors.

Official Air Records Rebirth Looms As U. S. Export Factor

Federation Aeronautique Internationale, now reorganizing, called capable of financing specifications for record flights so that aircraft of one country would appear superior to those of another, despite actual advantages.

Efforts of U. S. aircraft manufacturers to broaden their export markets may be greatly influenced by the reorganization of the Federation Aeronautique Internationale, top executives of which shortly will meet in Europe.

FAL, which was founded in 1908, is the world governing body of sporting aviation. More significantly, it coordinates and gives an official rank to all aeronautical records, and its authority is recognized throughout the world. FAL discontinued its activities in 1939. When it reorganizes, one of its first tasks will be to set new standards for records and specifications for aircraft, which were engaged in record attempts.

"Favoritism"—Consequently, according to authorities on the subject, the specifications could be so framed that U. S. aircraft, on the basis of FAL records, would appear inferior to foreign planes in certain respects. For example, a foreign transport with high speed, but short range and low payload could establish an FAL point-to-point record that would look better than that of a slightly slower U. S. transport that could carry a greater load at a lower operating cost.

Recognizing that fact, it is expected the first step will be a strong attempt at the forthcoming meeting to gain a dominant role in the formulation of the new standards for records.

Current president of FAL is Dr. Geoffrey L. Cabot, of Boston, who is president of the National Aeronautics Association, which is the U. S. representative of FAL. Dr. Cabot was first vice-president of FAL at the time of the last meeting, in January 1938, and succeeded to the top post upon the death of the president in 1941. He was expected to arrive in Europe by air last week.

Previously, in the past, the incumbent president has appointed the International Sporting Aeronautical Commission, the FAL division dealing with records. Two officers — the top commissioner ap-

pointed this year, and Wolfgang von Gronau, a Luftwaffe general — definitely must be replaced. Fate of the chairman, a Monsieur Hirschauer, is not known.

According to past practice, Dr. Cabot would appoint the commission, in which case, presumably, the U. S. would be represented. But it is by no means certain that past practice will be adhered to, or that Dr. Cabot will be re-elected president. There is known to be opposition to him by the Royal Aero Club, the British branch of FAL.

While NAA in the country surpasses record performances, and carries on other activity on behalf of FAL, it does not occupy a position strictly analogous to the aero clubs abroad. There, they are semi-official agencies and their

Bellanca Builder

Northwest Industries, Ltd., of Edmonton, Canada, announced to the press that it had acquired the Bellanca B-28 bomber. The Bellanca B-28 bomber, a 14-passenger aircraft, was built by the Bellanca Aircraft Corp., New Haven, Conn., in 1934.

W. Hugh Brinnell, president, and Bernard Brinnell, vice-president, for the manufacture of the Bellanca B-28 bomber, were present at a meeting with Bellanca Aircraft Corp., New Haven, Conn., in 1934. The Bellanca B-28 bomber was built by the Bellanca Aircraft Corp., New Haven, Conn., in 1934. The Bellanca B-28 bomber was built by the Bellanca Aircraft Corp., New Haven, Conn., in 1934.

Newspaper Plant—Edmonton, being an important air base on the northern route to Alaska and Russia, is a factor in establishing of a manufacturing set-up there. The company is now converting a former Bellanca B-28 bomber, to passenger production and will employ, by year's end, about 400 persons.

Under former ownership, the company was active in the warplane repair plant and war veterans. Northwest Industries will make all but the engine for the Bellanca planes. The Bellanca was widely used in northern Canada before the war.



FAL President: Dr. Geoffrey L. Cabot, Boston manufacturer and pioneer aeronautical enthusiast, who recently flew to Europe to reorganize the Federation Aeronautique Internationale, of which he has been head since 1941.

often frequently follow a policy laid down by their government and commercial aviation interests.

Scale "Leaver"—That the attention being given the FAL record set-up by countries which expect to have aircraft manufacturing industries. With the scale and the buying of aircraft in Europe after being a matter of government policy, FAL records could offer a convenient excuse for purchasing from a certain nation, aircraft which showed up well in FAL records but which actually were not as efficient as planes of another nation.

Some U. S. manufacturers, while not being fully cognizant of FAL's activity, acknowledge that the official records held by an aircraft can be an asset in making that plane well-known abroad. One example cited is the Lockheed T-44, which was built in 1934, which was sanctioned by the FAL. Although was by a British racing plane, great honor went to stock Boeing and Douglas fighters, which were passengers, finished second and third respectively.

South American "Tour" Set For Cargo Glider

A glider tour of Central and South America is being planned by Lester Kaufmann, with a B-23 towing one of the company's Trojan float cargo gliders. Landing and pick-up exhibitions will be given in jungle clearings with the

July Aircraft Production

For the first time since the United States entered the war, a complete plant-by-plant roundup of aircraft production, by type, is presented below. The figures show July accomplishments by the government from each airplane plant in this country and Canada operating under U. S. war contracts. July was the last full month of military and naval production, when 4,313 aircraft

of all types were received. Numerous contracts had already been out, of course, long before Japan's capitulation. Production

of the fighters is made possible by use and of maintenance, although some of the fighters are not shown.

LAND-BASED BOMBERS			
Plant	Aircraft	Produced	Supplies
Boeing	B-29	1,000	1,000
Boeing	B-29	1,000	1,000
Boeing	B-29	1,000	1,000
TOTAL			
Grand Total	B-29	3,000	3,000
Boeing	B-29	1,000	1,000
Boeing	B-29	1,000	1,000
Boeing	B-29	1,000	1,000
Boeing	B-29	1,000	1,000

WINGED BOMBERS AND PAYLOIS			
Plant	Aircraft	Produced	Supplies
Boeing	B-29	1,000	1,000
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Tulsa Municipal

ONE OF THE BIGGEST, BUSIEST AIRPORTS OF 'EM ALL PICKS PHILLIPS

With more than 100 aircraft on the ground, and staff that is on its toes, alert, and progressive as they could be!

The Tulsa Municipal Airport isn't just a post-war dream—it's a present-day reality.

Previously restricted because of military security, these are the facts of this tremendous operation. It comprises 1,600 acres of land. It has six concrete runways, 6.5 miles in total and 150 feet in width,



these runways accommodate the largest bombers and cargo ships built—and with its modern facilities it will be able to handle 2,500 planes daily!

Tulsa's fueling facilities are another feature. New-type pumps in use are capable of pumping 80 gallons of gasoline a minute. Gasoline storage tanks have been increased in capacity to 100,000 gallons.

Now, here's the pick for Phillips: We think a pretty good indication of an Aviation Gasoline is the kind of people and places that use it. We think the fact that Tulsa Municipal Airport is a Phillips customer speaks louder than all the product claims in the world.

We need this confidence; . . . we'd like a chance to earn yours. If you have a problem which involves aviation gasoline, why not let us take a crack at it? You write to the Aviation Department, Phillips Petroleum Company, Bartlesville, Oklahoma.



(Above) Main administration building in the Tulsa Municipal Airport—one of the most modern and well-planned buildings in the aviation industry.



(Left) C. W. Short, Jr., Manager of the Tulsa Municipal Airport—one of the most modern and well-planned buildings in the aviation industry.



225,444 Planes Built For War

A record breaking production of 225,444 aircraft were produced by industry in this country under the supervision of Aircraft Production Board during its existence from December, 1942, until the end of August, 1945. Of this amount 104,438 were tactical types.

From Pearl Harbor until V-J Day industry produced a total of 212,857 aircraft of which 112,757 were tactical types. J. A. Kratz, chairman of WPB and APB, paid tribute to the aircraft industry and stated that the board had had its fullest cooperation.

Final Party—The last meeting of the APB was held Aug. 30, but it will take until the end of September for clearing up operations. Winding up affairs also on September 30 is the executive committee of APB, Aircraft Resources Control Office and the

Aircraft Scheduling Unit at Wright Field which was delegated powers by APB.

According to APB officials, scheduling, procurement, contracts, priorities and all expediting powers will now be returned to the services, Army Air Forces and Navy Bureaus of Aeronautics. The Aeronautical Board will supervise all standardization between them.

Any official production report for August will probably emanate from the Army and Navy since outbursts at the end of the war completely upset ARDC's schedules for the two services. Overall acceptance for August will be far below the original schedule as the industry is now on cutback schedules and acceptance for the latter half of the month will be low bringing the total down.

loins. This is contrary to the statement issued by the National Association of Manufacturers that the operating funds of industry may be tied up for six months."

Blackley said that under existing provisions there is no reason why contractors in mass cases cannot get liberal partial payments or guaranteed T-loans within 30 days after application.

Aircraft Material Surplus Released

Production items exempted from inventory restrictions by WPB order encouraging flow to commercial output.

An action designed to encourage the flow of surplus aircraft production materials into the hands of manufacturers has been taken by the War Production Board, which issued a new directive exempting surplus aircraft materials, both government and contract owned, from inventory surplus restrictions when they are used in the manufacture of civilian aircraft.

This new directive now permits aircraft, or aircraft subassembly contractors, to receive in special sales from other aircraft or subassembly contractors or from government owning or disposal agencies, idle, excess or surplus materials without regard to the inventory restrictions of a priorities regulation which heretofore has applied.

Wart Stock—The reduction of military aircraft programs has resulted, WPB officials pointed out, in large surpluses of aircraft quality materials and components far exceeding foreseeable commercial requirements for civilian aircraft.

In order that aircraft manufacturers may obtain as much as possible of these surpluses, the new directive provides that inventory restrictions on receipts do not apply, provided that all the following conditions are fulfilled:

1. The materials must be received from aircraft or aircraft subassembly contractors or from government owning or disposal agencies.

2. They must be received pursuant to a special sale under priorities regulations.

3. They must be acquired for use in the manufacture of civilian aircraft and components and not for sale or resale.

The new directive also provides that "a person who receives materials or components under this rule may not thereafter receive further deliveries of the particular item from producers or distributors of it until his inventory of it is reduced to a preestablished minimum working inventory or other acceptable limitation and his orders may not call for delivery before that time."

RCAP Maintenance

A maintenance command of the Royal Canadian Air Force has been established at Ottawa with Air Vice-Marshal Ralph E. Mc-

Burley in charge. The new command will be responsible for the procurement of all RCAP supplies, will supervise the inspection, distribution, installation and salvage of all such equipment and will be responsible for certain airports and buildings. One of the immediate tasks of the command is that of disposal of all RCAP surplus equipment not needed for the reorganization of the RCAP on a peacetime basis.

CAA Fills Posts Vacated In Probe

Harwood and Smith, First Region officials, replaced after resigning as result of rules making investigation.

Appointment of a new acting CAA regional administrator and superintendent of safety regulations for the First Region, to replace Glen P. Harwood, acting administrator, and Gilbert E. Smith, acting superintendent, both of whom resigned as a result of the investigation into administration of civil air regulations in the New York area, was announced last week.

Meanwhile, Smith issued a statement from New York, saying his resignation resulted from a fundamental difference of opinion as to how regulations should be administered and "how the public should be treated." He said that no charges were pending against him or Harwood.

New Officials—W. E. Kline, fifth region administrator, Kansas City, was transferred to succeed Harwood, while Lt. Col. Gra W. Young, former safety regulations superintendent in the Third Region, Chicago, and now in the Army, was named to succeed Smith. Young will take the post as soon as the Army releases him from military service.

Kline's Kansas City post will be filled by Lt. Col. Leonard Jorden, former Fifth Region Administrator, when he completes terminal leave from the Army.

Some criticism was heard unofficially at the failure of CAA to make public the names of five other CAA officials also implicated in the investigation. The criticism was based on the content that until five names were disclosed, all other CAA regional and field officials were linked by implication with the investigation.

Probe List—CAA Administrator

Delta links the Southeast to Chicago



Chicago-Miami

Chicago-Charleston Services

to start at an early date

Delta Air Lines has been authorized by the Civil Aeronautics Board to operate two new routes from Chicago to the Southeast—one terminating at Charleston and the other at Miami. This service adds approximately 1,200 miles to existing Delta routes—provides service to two new cities with a total population in excess of 4,000,000.

The Air Trade Routes of the South, developed by Delta over the past 10 years, are thus rounded out with even more complete Southern coverage—and Chicago becomes the first of a series of key city terminals outside the

South to be reached through Delta's expansion program.

The New South, the industrial and metropolitan South, needs additional service to the nation's business centers. Detroit, Cleveland, Kansas City, Washington and New York are other natural destinations for Delta-developed traffic.

Since flying as first passenger in 1929, Delta has built a Southern air communications system with an unparalleled record of operation. Both North and South will benefit from each new national route Delta serves.

The Air Line of the South



Head Office:
ATLANTA, GEORGIA



The Rainbow: Flight view of model discloses clean lines. Note jet trails from exhaust booster.

T. P. Wright had previously announced that two regional offices have been formally charged with maintenance, two others, later revealed as South and Harwood, have been asked to merge, and three have been transferred to other posts.

Charges under investigation involved improper issuance of service's certificate, discrimination in enforcement, arbitrary conduct in grading examinations, and accepting gifts.

Two Air Firms List Personnel Changes

Halcyon leaves Aerojet, joins Mead
Commissioner advisory staff; Morris to aid Bendix Helicopter head.

Andrew G. Halcyon, founder and president of the Aerojet Engineering Corp., has resigned as president and director to resume practice of law in Washington, D. C. Immediately following his resignation, Halcyon was appointed advisor on aircraft to the subcommittee on aviation and light metals of the special Senate committee to investigate the national defense program, the Mead Committee, formerly the Truman Committee.

In company with a group of distinguished scientists including Dr. Theodore von Karman, Dr. Fritz

Zwicky, Dr. Martin Summerfield and Dr. Frank J. Malina, Halcyon organized and guided through the war years the jet propulsion and rocket power plant facilities of Aerojet at Pasadena and Azusa, Calif.

Charles L. Morris has been named assistant to the president of Bendix Helicopter, Inc. Morris is a pioneer helicopter pilot and formerly was chief helicopter test pilot for the Bell Aircraft Co. He is a past president of the National Association of State Aviation Officials.

AAF To Diminish Under New Plan

Army Air Forces will be cut down to around 600,000 men within a year, under present plans in line with a program looking toward the smallest possible force adequate to do the peacetime job.

A spokesman for the AAF said an interim force of approximately 700,000 with about 7,500 planes was projected by July 15, prior to the Japs surrender, but the plan is being revised in view of developments since it was formulated. Elastic Program—The program, it was conceded, is entirely out-of-date now. The plan was in effect when the Japs surrendered. The new program is being so reorganized that the force can be reduced or

increased depending upon the circumstances.

On surplus aircraft, the spokesman said all Republic aircraft not needed by occupation forces in Europe have been returned to the United States for training purposes. Nonflyable craft are being scrapped in Europe.

Republic Enters Transport Field

Announces plans for Rainbow, 60 passenger, 400 mph. high altitude four-engine plane.

A new contender for top spot in the transport plane field was announced today by Republic Aviation Corp., lithographs an exclusively military producer, with the revelation of the well-guarded details of its Rainbow, a 60 passenger, high speed, high altitude transport. With a speed officially set at better than 400 mph at 40,000 feet, Republic executives say they believe the Rainbow to be the fastest transport plane yet engineered.

It is powered by four Pratt & Whitney Major engines, rated at 3,000 hp. each. A feature that contributes much to its high speed is the use of a booster on the exhaust to create a jet assist. This is said to add 200 hp. to each engine. The bullet-shaped fuselage is particularly clean and the tail assembly is dominated by a tall single fin. Tricycle landing gear is planned.

The interior of the Rainbow provides 32 conventional seats, two on each side of the aisle, and a cocktail lounge over the wing section seating another eight. The cabin is pressurized for high altitude flights.

In its announcement, Republic cites the plane's ability to make scheduled trips from New York to London or Paris in 4 hours; New York to Mexico City in five hours; New York to San Francisco in six hours; San Francisco to Honolulu in six-and-a-half hours.

In addition to 40 passengers the plane will carry a crew of seven, 1,000 pounds of baggage, and 1,700 pounds of cargo.

Negotiations for commercial orders have been in the discussion stage for some time and further developments are expected within a few weeks. It is believed that one of the most interested lines is one of those recently certificated to fly the North Atlantic.

Stars in the sky... the Superfortress



a great airplane that flies first on Chevron Aviation Gasoline

A RAIN OF TERROR falls upon the enemy island of Honshu as Superfortresses pour TNT. Forty 300-lb. bombs can be carried by a single B-29, in addition to enough fuel to fill a railroad tank car. The fuel tanks of B-29's built on the West Coast are filled first with Chevron Aviation Gasoline. Boeing Aircraft Company has used Standard Aviation fuels since 1915.



GREENHOUSE NOSE affords excellent vision for bombardier, pilot, or pilot. Pilot's job is lightened by flight engineer, who handles main instrument panel. Extra power and range of Chevron Aviation Gasoline make his job easier, too.



ON LONG MISSIONS Superfortress crew can "let the tank" on these heads. Headset while seats an unrepresented version of high-flying B-29. Development of high-mixing engine fuels like Chevron Aviation Gasoline have vastly increased ceiling of warplanes.



BATTLESHIP FIRE CONTROL of B-29 powers single power to concentrate fire of several control units. Superfort carries two 50-cal. machine guns in five minute control units, plus 20 mm. cannons in tail engine. For the dependable power required in test flying and delivering these 50 ton day giants, Boeing's West Coast plant selects Chevron Aviation Gasoline. Chevron is the choice of every other West Coast plane plant and airlines, too.



ADAPTED to the requirements of high engines, Chevron Aviation Gasoline gives power from an even margin of power, range, dependability. Try Chevron Aviation Gasoline—it will make your plane, too, a star in the sky.



Haphazard Airport Operations Stifle Progress, Says Geisse

Poor service to customers seen behind rising public opposition toward small bases for private pilots; CAA expert blames lack of owner "pride" in growing development threat.

By ALEXANDER M. SURELY

Public opposition toward small airports for private flyers, which is being observed in many parts of the country as a growing sore after a new and serious obstacle to the full potential of expanding post-war personal aviation.

John H. Geisse, assistant to the CAA Administrator, for personal flying development, issued a warning last week that the development of new airports is facing strong opposition in many localities from residents of homes near the airports, in most cases, non-flyers.

"There are objections to the shortcomings that has become associated in the public mind with airports," Geisse said. "In the majority of cases this has been due not to lack of capital but to lack of pride in appearance on the part of the operators or just sheer laziness."

"Although most of these operators are thoroughly convinced that they have earned the right to share in the expected increase in business by having lived with aviation when the planes were slow, aviation cannot afford to permit them to continue in the manner to which they have become accustomed."

Geisse cited as another principal objection of the non-flying public

to noisy airports, the low-flying airplane.

Public Irritant — Geisse warned that low flying pilots are building more public prejudice against airports. "When our greatest need is more airports, and airports closer to people's homes, it is downright foolhardy for us not to do everything in our power to reduce to an absolute minimum, the inconvenience or disturbance to people on the ground."

"Their complaints reach the ears of others who have it in their power to keep airports out of their communities and thus they are doing so in small numbers."

The CAA personal flying assistant pointed out that the facts that manufacturers may eventually produce quieter airplanes, and that recent tests show airplanes flying overhead create less intensity of noise than trucks passing in the street, do not excuse existing low flying practices which aggravate the noise nuisance to people below.

Pattern Change — He recommended that operators study revision of local traffic patterns and eliminate practices flying in areas where it may be dangerous.

The facts that the American public with the relaxation of wartime restrictions is beginning to

demand vastly improved service from every type of aviation industry, is another factor facing the airport operator.

With a few notable exceptions, the small airport has never given the private flyer the type of service or facilities he could get by spending the same amount of money in almost any other service industry.

Pre-war 'Fair' — In pre-war years, it is a well-recognized fact that the small airport offered, particularly speaking, a minimum of flight facilities, and too many operators were inclined to tolerate the flyer rather than to encourage his patronage by courteous service.

The difference between a well-operated and poorly-operated airport, it is pointed out, need not be measured necessarily in terms of money invested.

Universals — The smallest operation, as has been proven, can offer cleanliness, bright paint, sanitary restrooms, close-cut turf field, absence of fire hazards, and prompt, courteous, satisfaction of the customer's wants.

How well this type of airport management has paid off, in the few cases where it has been given a fair trial, may be observed by examining the operations and service provided by most of the leading operators.

They have built up their business because of superior service and facilities. But, even some of these have lost ground in recent years.

Two-Place Ensign In Test Flight

Scheduled for test flight at Long Beach, Calif., Airport, yesterday was the West Coast's newest addition to a steadily-growing category of planes for the personal aircraft market.

This is the two-passenger low-wing Ensign, plastic canted and expected to retail for \$2,995.

Its manufacturer is All American Aircraft, Inc. of Long Beach, wartime producer of aircraft parts headed by Gerald Adler, president.

Top Speed—Design specifications call for a top speed of 125 mph, 115 mph cruising speed, 90 mph landing, and sea level climb of 745 fpm. under power, delivered by an 85 hp Continental engine.

All-metal construction is used in the Ensign.

266 Extra Ideas

RYAN'S Production and Engineering Staffs include many outstanding names of the aviation industry. But no one MAN... nor one GROUP... has a monopoly on ideas. That's why the Ryan Aeronautical Company sponsors Shop Suggestions and Patent Development Plans, which offer valuable incentives to all employees... for turning in suggestions for improvements. Often, these suggestions turn out to be the sort which occur only to workers in their on-the-job, everyday experience. To date, Ryan employees have submitted 1065 ideas, from which have been obtained 266 valuable contributions to aircraft production. 266 reasons why Ryan production methods mean constantly improved military planes today... safer, lower cost air transportation tomorrow.



NEW TOOL SAVES MAN-HOURS

When the final version of metal dies is put down as a wing, these ensure an evening on the landing strip which may be around half the old method. At the time the aircraft is being built, the dies are used to cut the metal into the shape of the wing. This was done and produced an expensive, noisy, and slow process. Now the dies are used to cut the metal into the shape of the wing. This was done and produced an expensive, noisy, and slow process. Now the dies are used to cut the metal into the shape of the wing. This was done and produced an expensive, noisy, and slow process.

—Shop Suggestion No. 433



NEW BRAKE-BLOCK ELIMINATES UNNECESSARY

Constant checking and rechecking of the brake blocks on a Ryan wing had been a costly and time-consuming task. Recently getting the brake block out of operation, the Ryan Aeronautical Company's Shop Suggestions Department suggested making a bracket on the two separate halves, and equipping with ball bearings so the dies can be replaced with a minimum of trouble. Since then, time taking measurements caused by having to use have been eliminated, and the production output of the department has been increased.

—Shop Suggestion No. 438



VULCANIZING ROLLS GIVE OF SCARCE RUBBER

The rubber profit that covers the cost of a vulcanizing roll is a small sum, but it is a sum that is often lost. Recently getting the rubber profit that covers the cost of a vulcanizing roll is a small sum, but it is a sum that is often lost. Recently getting the rubber profit that covers the cost of a vulcanizing roll is a small sum, but it is a sum that is often lost.

—Shop Suggestion No. 1470

SET ON STAN TO BUILD WILL

1922-1945



RYAN Airplanes

Ryan Aeronautical Company, Inc. Ryan - America's Aircraft War Production Council, Inc.

DESIGNERS AND BUILDERS OF MANY FIGHTING PLANS AND AIRCRAFT MANUFACTURED SYSTEMS



Artist's drawing of the Ensign in flight

Fixed Bases Warned About Negligence

Some of the soundest advice that is being offered aviation sales and service operators currently is contained in the monthly news letter of the Washington State Aviator Association, over the signature of A. L. Hester, president.

Hester's latest pungent comment concerns the facilities afforded the public today by airport operators or rather the lack of them:

"I returned recently from a trip down through Oregon and Southern California and am extremely impressed by the lack of facilities of all airports visited. It seems to me that most of the operators are drifting right back into the old barnstorming days.

"I hate to say it but if what you see around the ordinary airport and flight operation is what we are going to offer the public, private aviation is going to dwindle and die. Just the business worth enough investment to present a nice clean operation to the public and above all a little personal service."

"The startling revelation of the entire trip was this, and a lot of you old timers are going to disbelieve it, but the only people we visited and places we saw that were half way clean and that tried to offer a little service were men who had been in the business a very few months.

"We also saw old timers actually trying to understand methods to ferret the little newsmen out of business, just because the young fellow who didn't know any better was offering some service and taking their business.

"It is a sad state of affairs and any of you who have varied any



WASHINGTON AIRPARK:

Droneer showing how the proposed airport for Washington, D.C., would fit into the National Stadium project now being ordered by a committee of Congress, picture the landing strip, 500 by 3,000 ft. in foreground with a 3,300-ft. runway per seaplane landing alongside. Parking facilities for approximately 100 planes would be available, together with nearby bus, trolley and taxi transportation. Proposed site is one mile from the Capitol, three miles from the White House. Construction of the airport as a memorial to American air achievements in World War II is being actively urged by the Aero Club of Washington. Droneage above airport in relation to stadium and other recreational facilities projected.



airports know what I am talking about. You would not attempt to run any other public service business the way most of the flight operators are trying to sell aviation."

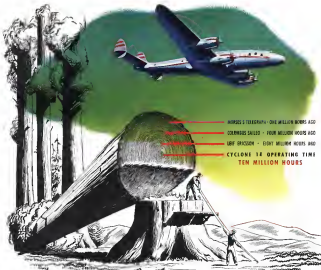
Hester describes a visit to one

"typical" operation, and warns that the short-sighted operators are "cutting off the head of the goose that lays the golden eggs," by failing to provide reasonably good service and facilities to the flyer patron.



Used Plane Lot: Rolando Motors' used car lot in San Diego, Calif., has now been converted to a used plane lot, as shown above, for re-sale of surplus Ryan

PZ-22 trainers. Planes are sold after reconditioning and approval by CAA inspectors, with delivery and a tankful of gas included. (Story on Page 21.)



WRIGHT 18 TELEGRAPHY - ONE MILLION HOURS AGO
COLUMBUS SAILED - FOUR MILLION HOURS AGO
LIFE SHOOTER - EIGHT MILLION HOURS AGO
CYCLONE 18 OPERATING TIME
TEN MILLION HOURS

Centuries of Power *behind the Constellation*



A year is only 8760 hours. The Wright Cyclone 18 has a total flight and test time of ten million hours. In hours, years or annual rings in a tree, that's eleven centuries of time.

In the war years, the Cyclone 18 has gone through a fast, growing development program. No other engine has ever had to make such adjustments—excess temperatures, overloads, over-speeding, lean mixtures and maintenance handicapped by supplies.

From that stage, however, came constant refinement and design changes—improvements which paved the way for increases in performance and

only of bombers, but of all types of planes powered by the Cyclone 18.

Thus, the Cyclone 18 built today for planes such as the Lockheed Constellation is the son of this ten million hours of experience. The forced acceleration of war has produced an advanced engine, years ahead of its time, for all types of planes.

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Four Breeze-Shielded Wright Cyclone 18's rated at 2100 HP power the Breeze B-27 Superfortress in its combat attack against the Japanese homeland.

The 32-passenger Lockheed Constellation, whose turbo-supercharged rated at a lean 34,000-horsepower was powered by four Breeze-Shielded Wright Cyclone 18's.

For many years Breeze has been recognized as the General Headquarters for Radio Ignition Shielding. The reputation which the products bearing the Breeze Mark of Quality built up on national and international airlines augmented by the service record of thousands of Breeze Shielding Assemblies for America's famous fighting aircraft, tank, marine and commercial engines. When final victory has been won, Breeze will once again be able to return to production of Shielding for commercial applications without delay for reconversion. And the reservoir of Breeze Shielding experience so materially increased in maintaining dependable communication in war, will be available to help pace progress in peace.

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Lightplane Instrument Era Forecast By Sperry Head

Measurement of personal aircraft utility seen depending upon instrumentation in many localities.

Utility of the personal plane will be measured in many localities by the kind of instrument equipment it has, in the opinion of R. E. Gillmore, president of Sperry Gyroscope Company.

The Florida, New Mexico, and Arizona flyers have almost perpetually "contact" weather and thus need but few instruments, while the Cape Cod, Long Island, and Chicago flyers need more complete instrumentation, and the man who flies out of Pittsburgh or Birmingham can make up his mind at the outset to buy a complete set of instruments if he hopes to use his plane with any degree of regularity.

Cost Formula.—Writing in the newest issue of the Fairchild Review, the Sperry president reports a direct ratio between the percentage of additional flying days available with instrumentation, and the cost of that instrumentation for a lightplane.

In New England weather averages indicate 180 days a year of contact weather, 84 days restricted and 99 doubtful. If the flyer wants to fly the 30 percent of the year that is neither contact nor doubtful, it will cost him just about an additional 30 percent investment in flight instruments and radio equipment to do so safely and legally.

It is expected that the average lightplane pilot will get most of his additional flying utility, not by actually flying in instrument weather, but by using instruments in "extended contact" weather when smoke and haze rather than clouds and precipitation restrict visibility.

Four Needs.—Gillmore lists four instruments as necessary for such flying:

A compass-controlled directional gyro, an air speed indicator, an altimeter, and a gyro attitude indicator, which will show the attitude of the plane with respect to the earth's surface at all times throughout the 360 degrees of roll and pitch.

He classifies "tomorrow's" lightplane" in three categories as to instrumentation:

1. The "Model T" for local flights

and short trips in excellent weather, equipped only with compass, air speed indicator, altimeter, and engine instruments.

2. The utility plane, for transportation between airports within a 200-300 mile radius, equipped with compass, directional gyro, gyro attitude indicator, air speed indicator and two-way radio with direction finder for homing.

3. The long-range plane with large tanks, equipped with all utility plane instrumentation plus an automatic pilot equipped with gyro-compass.

He expects a trend toward instrumentation installed at the factory where the plane is built, rather than leaving it up to the owner, to insure proper instruments, and to minimize possibility of accidents.

Gillmore reports "it is a certain-

Hangar Rent

Proffer dollars a month as the average hangar rental for lightplanes in this country, according to a survey recently completed by Aeronautical Engineering Society, a body of engine mechanics from aviation schools and service operators throughout the country is rapidly varying considerably.

Wayne Winkler, AFS secretary-treasurer, reported that storage costs of fields near major cities ran higher than those in small fields distant from cities, for, presumably, to lower land values and less expensive repair charges.

Night Vantage.—Northern operators reported generally higher prices than operators in the South. Winkler said, however, that \$12.50 a month appeared to be the minimum even in the South for hangarage in buildings of "approved construction operated by experienced management."

The survey is a part of a continuing study by AFS on the problem of storing personal planes safely and efficiently at low cost, as an important factor in giving personal plane greater utility to more potential users.

ty that instruments will be available for the lightplane at reasonable prices, of such design that it will not take hours of practice to learn how to use them.

SAFETY Example.—As an example of the simplicity already attained he reports that pilots with less than an hour's instruction in the use of the Sperry gyro attitude indicator have been able to accomplish perfectly executed loops and slow rolls "under the hood" by relying upon this instrument to give them a continuous picture of the maneuvers.

Car Dealers Shift To Used Aircraft

An enterprise which began as a used car lot last January in San Diego, is now doing business as a used plane lot, selling surplus PT-23 Ryan trainers, purchased from the government.

James Dean and Bud Alvengren, co-owners of *Islands Motors*, opened their used car lot after Dean received his honorable discharge as an Air Transport Command pilot, last winter.

Sales Terms.—In April, soon after they bought a surplus plane for their own pleasure, they decided to market the planes along with the cars. Before they are sold the planes are reconditioned and pronounced airworthy by CAA inspectors. Prices run from \$2,250 to \$3,400.

Despite the fact that the surplus military training planes are not particularly suited for use as personal aircraft, most of the sales are in middle-aged couples who want to learn to fly, the dealers report. Planes are sold with a tankful of gasoline and delivery to a nearby airport included in the purchase price.

A charter marketer in the used plane organization is *North Transportation*, former WASP, who is secretary and maintenance, and who makes delivery flights after many of the sales.

Experience.—Dean, before entering the ATC, held the Taylorcraft dealer franchise in San Diego. Most of his service flying was on the *Indra-Class* "over the Hump" route.

• Vernon Van Ness has been appointed public relations director of the J. P. Riddle Aviation School of Miami and has begun a new publicity and public relations program.

Air Planning Guide Presented By Pilot

Boiler-room aviator with NAA policy that even seems, all-classes use, hard flyer "warrior" line.

City planners concerned with providing landing facilities for the private flyer have been given a few tips on what the flyers themselves would like, as viewed by one of their number, J. H. Lindlaw, Minneapolis business man.

Speaking at the recent National Aeronautic Association Joint Airport Users Conference, Lindlaw declared his own experience pointed to those factors:

- ▶ **Easy access to town.**
- ▶ **All-weather utility.** This does not necessarily mean hard-surface runways. Runways should be readily discernible from the air, should be at least 300 feet wide.
- ▶ **Adequate storage capacity,** with multiple T-hangers apparently the best bet. There should be as little plane handling as possible.
- ▶ **A main office building** containing rest rooms, lunch counter, facilities to obtain weather information.
- ▶ **Facilities to make minor repairs immediately.** ("I have had to wait 12 hours to have a 75-cent job done.")
- ▶ **Parking and storage space** for automobiles.
- ▶ **A fenced spectator area** to keep people away from whirling propellers.

There is also a great need for uniform location of wind indicators in parks, landing fields, airport buildings should be clearly visible, perhaps with colored roofs. Landing area boundaries should be marked, and arriving pilots should be given instant instructions by some visual means as soon as they land.

Private Flyer Unit To Aid State Heads

A private flyer's advisory council will assist the Indiana Aeronautic Commission in its dealings with personal aviation, C. F. Cornish, newly-appointed director of the commission, has announced.

Another advisory council, including all commercial aviation interests, will also work with the commission so that all aviation interests in the state will have a direct voice in the commission's actions, Cornish said.

▶ **"Loose" Rules** — Cornish ex-

Briefing For Private Flyers and Non-Scheduled Aviation

If personal aviation is to make a real contribution to the public well-being, it must be simple enough so that the rank-and-file American can enjoy it without a great deal of study. A number of individuals in aviation years to retain that certain halo of heroism which once attached to the man who could pilot a plane and which is dissipated in ratio as the number of people who learn to fly increases. But, except for these, it is generally recognized in aviation circles that private flying is not, actually, too difficult an art to attain and certainly should not be made more difficult by regulation.

WOMEN FLYERS' ATTITUDE—All this being a preface to consideration of the recent action by the Boston Chapter of the Women Flyers of America in adopting a resolution asserting that relaxation of the regulations affecting private flying was "the most backward step taken since aviation development." The Boston WFA chapter went on record favoring return to the giving of physical examinations only by CAA-designated medical examiners, giving the examinations "at least once a year" and keeping physical requirements high for "reasons of safety." And they asked that the number of dual instruction hours should not be cut so "many careless and hazardous flying habits are formed when there is not sufficient supervision during the training period."

It is surprising to find an organization representing the flyer lined up in opposition to an almost unanimous aviation front which is firmly supporting the more liberalized CAA regulations. As far as we are able to learn, the WFA finds itself alone among aviation organizations in its stated except for the Aero Medical Association, which of course would have much to gain for its members if it could bring about a return to the former system of physical examinations, and so is not exactly a disinterested party.

GUIDE TO PRIVATE PLANES—Comes now Lester Gill, well-known aviation writer, with his compilation of facts and pictures on the private planes which will be available soon for the flying public. The paper-backed book, "The Standard Guide to Private Planes," is published by Associates Publishing Associates, New York, and contains a roundup of most of the latests, amphibians, helicopters and sailplanes which have been announced, together with chapters on how to buy a plane, insurance, regulations, instrument flight, navigation, weather, how to fly, an airport directory, and lists of recognized schools, dealers and distributors. An index classifies the planes listed in six series: passenger, landing speed, rate of climb, service ceilings, range, cruising and top speeds and engine power. Excellent photographs, most of them by Hans Greenhall, enhance the book's appearance.

TIGHT SQUEEZE—Our first look at a Johnson Rocket 185, recently at Indianapolis, disclosed a plane with beautifully smooth finish, excellent lines, and spectacular performance. But—the plane is being described as a three-place job, and it looks like a very snug fit for three, especially for a tight such as you might expect to make with a plane whose range is quoted at 850 miles.

QUONSET HANGARS—Parks Aircraft Sales and Service will install the first of a large group of new Butler steel hangars at the Indianapolis airport, operated by Doug Fletcher, as soon as the hangars, patterned after the Quonset but widely used overseas by the Army and Navy, are delivered. Estimated plan call for hangars over most of the airport, leaving room only for the runways.

—Alexander McGurely

pressed his personal opinion that some of the new civil air regulations for the private flyer were over-liberal and might result in increased accidents to the public. He indicated that the new regulations entailed greater responsibility to the flyer and the airport operator.

If this responsibility is not assumed, he said, state or municipal regulations are likely to supplement the federal requirements. He indicated he was considering additional state regulations to supplement Part 68 of the Civil Air Regulations.



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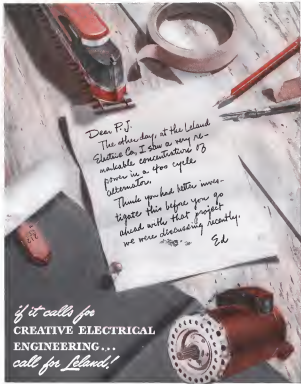
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Dear P.J.

The other day, at the Leland Electric Co. I saw a very remarkable concentration of power in a 400 cycle alternator.

Thank you had better investigate this before you go ahead with that project we were discussing recently.

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Farm Lightplanes Filling New Tasks

Kansas couple coordinate business from Oklahoma to Canada with private craft.

The value of personal airplanes to farmers is being increasingly demonstrated in the midwest in a variety of ways. One of the most visible is the utilization of a light plane in the harvesting business of Mr. and Mrs. Ki McDaniels, of Dorrville, Kans.

Operators of a ranch and flying service, the McDaniels also have a crew of six men and three combines which harvest grain in fields from Oklahoma to the Canadian border. When the crews start out, McDaniels keep contact by air.

Air "Dressing"—They also fly ahead load in pasture, and drum up harvesting business from men-by-farmers. Then they fly back to their crew with instructions.

When a machine breaks down they fly to town, pick up the necessary parts and fly back in much less time than it would take to go by car or truck. Sometimes needed parts aren't available in the closest town. Then parts are located in nearby towns by telephone and flown for.

Both are pilots, a factor which often facilitates the work. This custom type of combining-by-appearance is proving both practical and profitable, the McDaniels report, and they find traveling the farm country that way cheaper than by car or truck.

Not New—Long up work near Imperial Neb, recently the McDaniels found their type of service is making new to farmers in the area. Several ranchers and growers in Western Nebraska are known to use lightplanes or "air buggies" in connection with their businesses.

One is Dewey Traves, ranchman for the Imperial Farmers Equity Elevator. He gets badly needed repair parts in his lightplane, and has the service organized to serve others in the area. Traves believes the day is not far off when repair shops in towns in sparsely settled rural areas will have portable welding and machine shops built into planes and fly the shop to the break-down.

Cattle Check—A bit farther north, in Nebraska's sandhill country, a number of ranchers already are using planes to check their cattle herds on vast ranch areas.



Fruitful Flying: Mr. and Mrs. Ki McDaniels, Dorrville, Kans., and the lightplane they use in conducting a harvesting business. It serves as the "eyes" of their harvesting crew, an advance "wagon," and a delivery "truck" for spare parts for the combines.

Civic Groups Aid Skybopper Builder

Kansas City chapter of commerce joins in search for plant to house output of novel one-plane lightplane.

Plans for centralized production of the Skybopper, the one-plane lightplane designed by Gene Solway, are being forwarded in Kansas City, Mo., with the local chapter of commerce and other organizations aiding the designer in his search for a plant.

A revised version of the original Skybopper, which was built in a basement by Solway and George Stark (Aviation News, February 5), will be put into production when a factory is obtained. The Solway organization will seek an approved type certificate for the latest design.

Cost-Features — It will sell for about \$1,200, according to present plans, and will feature non-retractable tricycle landing gear, a large baggage compartment, a new-type dome enclosure and a 55 horsepower Continental engine.

No attempt will be made to secure an approved type certificate for the present model Skybopper. Solway plans to employ it for personal use and in working out designs for later models.

The plane is being promoted extensively as appearing in salesmen and other traveling shows on business. It is expected to have a comparatively long range and with a 24-hp engine has already demon-

strated a cruising speed of more than 100-mph.

One-Plane Airbase Opportunity Seen

There is still plenty of opportunity for veterans to build a profitable fixed base operation from a shoe-string start, in the opinion of Alfred B. Bennett, sales director of Aerovox Aircraft Corp.

"All you need is an airplane and a plot of ground of some 60, 80, or 100 acres which you can rent for, let's say, \$40.00 a month," Bennett says. "The airplane can be a second-hand one or, much better, a new one. As soon as your airplane is delivered you're in business because it can start producing revenue. You stay on the job and give flying lessons. You use your plane as a demonstrator to sell new ones."

Historic Centennial — Despite the fact that there are today more than twice as many publicly-owned airports, and that the history of airport development is studded with cases of municipalities' taking over unprofitable private operations, Bennett told the Joint Airport Users Conference that his plan would work.

He cited his own experience and added: "Operating one little airbase with overhead consisting of \$40 or \$50 a month for field rent and a monthly payment on the airplane, and operating expenses, a few gallons of gas each day, there aren't many mistakes you can make that will wreck you."

PERSONNEL

F. S. Cross Appointed Chief Marine Counsel

Frederic B. Cross (photo) has been appointed chief civilian legal counsel of The Glenn L. Martin Co. Since 1941 he has been at the Martin organization as resident representative to the general counsel, Jones, Day, Cookley and Towne of Cleveland. Cross first began his practice of law in Cleveland with Andrews and Nelson and, two years after going to the other firm, was assigned to the Martin organization's general office in Baltimore.

Col. Clemson Returns To Head Midwest TWA

Latent Col. John H. Clemson (photo), a veteran of World War I, who organized and directed the military priority-bus system on U. S. flag carrier routes, domestic and foreign, during the war, has been released by the Army to become general passenger, mail and express agent, of Transcontinental and Western Air, Inc. He succeeds W. N. Goshorn, who is now director of industrial relations for TWA. Colonel Clemson was general traffic manager of TWA before going on military duty. His entire career has been in the transport field, first with Transcontinental Air Transport, TWA predecessor.

L. A. C. O'Farrell Henry, veteran pilot with 12 years of service with Standard Oil Company of Indiana, has been appointed manager of the company's aviation department in the Chicago general sales office promotion department. Mr. Henry joined the company in 1932 as a salesman in the Quency, Ill. sales division and was transferred as an analyst to the general office sales research department in 1938. Since 1940 he has been sales promoter for domestic heating oils and diesel fuels, in which position he has been succeeded by A. J. Melts, former special representative for fuel oils in the Chicago sales division. John F.

Porter, Standard's aviation salesman for almost 20 years, has become aviation representative in the aviation department.

Boring Vice-President Elected to AIA Post

Wellwood E. Boring (photo), vice-president, engineering, of Boeing Aircraft Co., was elected chairman of the newly created executive board of the Aircraft Technical Consultants' Association, Aircraft Industries Association, at the annual meeting, Dec. 11 and the five-man board will function as a steering committee in advising the work of the various technical committees of the association.

AA Airfreight Agent

Joseph D. Boylan has been appointed general airfreight agent for American Airlines, to act as an adviser to James A. Wooten, cargo traffic manager, in the development of national airfreight accounts. He has been associated with truck express organizations and, prior to joining American, was employed in a aviation station by the U. S. Army Transport Corps in New York.

Russell H. Whinnepack has been appointed sales manager of the aeronautical division, Minneapolis-Honeywell Regadio Co. He has been in charge of the "Aero" field division and supervised a group of more than 100 Honeywell technical representatives serving with the AAF at all major air bases.

Col. Richard E. Finnitt, an military leave as vice-president, eastern operations, of United Air Lines, was deputy assistant chief of staff, operations, of the North African division of the Air Transport Command, has been awarded the Bronze Star for his "forethought and judicious planning" of air transportation details for the late President Roosevelt's trip to the Casablanca conference.

CAA Technical Advisors Leo F. Hammer, Jr., Conrad H. Zimmerman, and Lester H. Swisher have been awarded the Army's certificate of commendation in recognition of work done in the construction and operation of runway traffic control centers in North Africa.



C-W Appointments:

Richard S. Husted (left), who has been named administrative assistant to the vice-president and general manager of Wright Aeronautical Corp., served as manager of the Curtiss-Wright Corp.'s office in Washington, D. C. Robert K. Brown (right) replaces Husted as manager of the Washington office. He had been manager of the contract and service department of the Cincinnati plant of Wright Aeronautical.

William G. Key (photo), widely known aviation writer, has joined the Hill and Knowlton public relations staff at the Aircraft Industries Association headquarters in Washington. Key recently has been doing freelance writing from Florida and prior to that was on the staff of Aviation News. Before his association with the News, he was with PCA, going there from the Allstate Corporation where he had various assignments, including the city editor's post.

Obituary

Wilbert Foster, 45, aviation leader in "Warren" and recently at his home in Burlington, was former chairman of the Burlington Airport Commission and was appointed a member of the State Advisory Board of Aeronautics in 1938.

Joe Parker, formerly chief test pilot for Republic Aviation Corp., Farmdale, L. I., was killed in a freak accident while taking off from the island air strip of It Shana in a Thunderbolt he "loved the mysticism of incomprehensibility," according to his



company, and taught the Army Air Forces not to fear it in the power drive of the P-47.

"TOMORROW'S AIRCRAFT will fly with Honeywell Controls"

Critics regarding the control, tomorrow's more than meet the accelerated demands of war. The same critics regarding and its various necessary developments will help us to master's aircraft. Honeywell's control program includes a complete light control system, an aircraft, and thousands of other types of testing equipment. In addition, these applications equipment will control with aircraft manufacturers and control system in developing the most perfect development for each specific problem. These work includes consulting service, test writing to customer plans. These can help you in the application of Honeywell equipment to your control problems of tomorrow as well as today. Minneapolis-Honeywell Regadio Company - Aeronautical Division, 2347 Fourth Ave. S., Minneapolis 8, Minn.

AUTOLYTOL — Honeywell's experience in the production and maintenance of more than 2000 in operation in the foundation for a new light-weight pilot view in the design stage. Gyro are being developed under for accurate (and mounting on the remote installation. All these services will provide smooth remote control operation and intense discussion. Control systems will provide lightest, greatest or complete control of remote handling and carry adaptation to local handling equipment. Other occupied features include emergency engaging, automatic synchronization, and a "risk control" for quick, easy adjustment of light characteristics.

FUEL QUANTITY INDICATOR — By measuring the capacitance between two aluminum tubes, a new electronic fuel gauge indicates the quantity of gasoline in fuel tanks and automatically compensates the temperature variations. The tank uses concrete no float or other moving parts and may be installed in the tank under from top or bottom. Any number of tanks may be covered with a single, remotely installed amplifier and custom device calibration. The two degree indicator employs a follow-up device which automatically releases in the full range, thereby allowing greater accuracy all the way from FULL to EMPTY.

KINETIC PORTIONERS — Accurate within 10 degrees but have achieved results by using a new kinetic positioning system which provides full range right up to the balance point in all degree increments and follows up system permits continuous coverage in other direction providing more speed in rate achieved by the instrument. The model provides an inch weight range at 1.5 rpm but other combinations of torque and speed can be provided. The system can be applied to any remote positioning problem where every motion is desired.

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While many of Goodyear Aircraft's products continue to be confidential, we can now release part of the picture of Goodyear Aircraft Corporation at war. More than sixteen different types of aircraft speeded into service! In addition to complete Corsair fighter planes and ships for naval patrol, more than 100,000 major components for other aircraft already produced - all this evidence of engineering, tooling and production ability built up during 35 years' experience in aviation. Evidence, too, of ability to handle assignments the future will bring. Goodyear remains dedicated to the ideal of keeping America first in the air.



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WARRIOR

WARRIOR

U.S. Jet Problem Solutions Seen By British Engine Official

Airline use of gas turbines forecast within several years by Ministry of Aircraft Production expert Banks; commercial success of resonance powerplant doubted; rockets suggested for supersonic speed.

The director of engine development for Britain's Ministry of Aircraft Production, Air Commodore F. K. Banks, foresees early solution of America's jet engine problems which to some are discouraging.

At Beverly Hills, Calif., last week, the British engine authority provided *Aircraft News* with a summary of his observations following conferences with U. S. engine builders and aircraft engineers.

Turbine Time—"Our own and your gas turbine development now should move more rapidly toward a point where this power source will be safe for airline work," Banks said. "I have every reason to believe that in from three to five years your own engines will be in excellent working order."

He added that it was reasonable to expect that in time the jet engine will eliminate the piston engine and he said he believed that this will begin to take place in from five to seven years with jet, straight jet or propeller jet, according to altitude and speed requirements, coming into the field to make the piston engine obsolete.

Banks doubts that the resonance jet engine will prove to be a commercial success, but he conceded he is extremely interested in American research and that he has assigned an engineer to study, on the West Coast, resonance engine improvements developed by the G. M. Gossman laboratory in Pasadena.

Ram 'Premier'—There is a degree of promise, he feels, in the

thyrodyne—air ram jet—engine for supersonic speed aircraft. He listened to discuss his own country's experiments in surmounting the speed of sound, he predicted that success in this phase of aerodynamic research may not be far distant. He believes that supersonic flight with altodyne engines should be "practical" within five to seven years. The problem of "punching" aircraft over the border of sonic speed may be solved, he feels, by the use of rocket power.

In making his tour through United States aircraft production centers, Banks not only is studying closely American powerplant developments and installations, but he also is urging a strong technical alliance between this country and Great Britain as a means of preserving international speed will.

"It is hopeful that your people will see it to develop with us, as we are prepared to do, a free exchange of technical information," Banks said. "I am convinced that if America and Great Britain can stick together for the next ten years they will be lifelong friends."

Atom Factor—As has been the case with American aviation leaders, the British visitor sees in the atomic bomb an influence which promises to "alter all of our ideas concerning military aviation."

"It becomes apparent that our future military production of aircraft will be largely that of transport fleets to carry troops," Banks said. "With a few high speed bombers designed and built to carry atomic bombs to wherever they may be needed, I anticipate that the troop transports will serve the purpose of bringing order out of localized confusion and that the atomic bomb will be reserved for use only as a last resort against a nation threatening a major conflict."

Fuel Flame Protection

Released from previous restrictions by the end of the war, the Glenn L. Martin Co. has disclosed it developed a method of insuring that fumes of high-octane gasoline could not leak from aircraft tanks.

The protection is afforded by a thin film of stylen sandwiched between the layers of synthetic rubber which form the walls of the fuel tanks. The company claims it is the only practical method yet devised to prevent escape of the fumes of high-octane, aromatic gas.

LIVING ROOM IN THE SKY!

YOU'LL have room to live in and enjoy it—in your new Taylorcraft Tourist. Room to stretch out and relax... room for the whole family... room for radio, ash trays, and all the comforts of home in the biggest, roomiest cabin ever built for a four-passenger airplane.

Room is only the beginning of the comfort you'll enjoy as your "Crash Tourist." Wait till you sink down in those soft, upholstered seats... wait till you glimpse that view, unobstructed all around—it's like a panorama from a perchway!

Wait till you start that engine—with just a touch of a button. Wait till you get the feel of the motor—the

fact (performance tests have proved) over built for a four-passenger ship.

And wait till you learn the price—just \$695 or less than half the price that four-passenger planes have always sold for!

You won't rest till you're living in the skies in a plane that you can rest assured is the best word in safety, speed, and topflight comfort and performance.

A plane you can own on any budget terms!

See your Taylorcraft dealer now—or write for full information about the new family plane "with the built-in outboard".

Taylorcraft

World's Largest Builders of Side-by-Side Airplanes

TAYLORCRAFT AVIATION Div. of Bennett Aircraft Products, Inc. **ALLIANCE, OHIO**



Like the mythological bird that flies backward because it wants to see where it's been, but doesn't care where it goes, this biplane plane appears to be going in reverse. It has a small wing in front, the main surface at the rear. Said to be extremely suitable for narrow run, it is named Libellula, and was designed by George Miles, chief designer of the noted firm of that name. It is also considered a potential personal plane market entry.

Leased War Plane Factories Assume Vital Peacetime Role

Vastly expanded aircraft manufacturing structure seen making government-owned facilities essential for most firms; Army lists surplus plants; Navy plans set for early disclosure.

Back on a peacetime basis of competition and "trade secrets," aircraft manufacturers are moving quietly to develop their plant facilities for civilian production.

While not intruding their plans, most manufacturers are felt to be interested in making some kind of a deal for the continued operation of the government-owned plants they leased during the war.

New Light—Some additional light on just what will be available in the way of plant capacity may be shed this week when Congress reconvenes. The Navy Department has proposed its recommendations on plants which it owns or controls and intends to send them to Capitol Hill presently.

Army's action is declaring 33 aircraft plants surplus, (AVIATION NEWS, August 27), does little to clarify the plant picture. Few of the plants listed were major assembly points, and additionally, some manufacturers have indicated interest in acquiring plants not yet on the surplus list.

Among these are McDowell Aircraft Corp., which is negotiating for a lease on the facilities formerly used by Curtiss-Wright at St. Louis, and Bell, which is dealing with the Reconstruction Finance Corp. to purchase the Niagara Falls plant it leased for war production.

Industry Hints—Certainty that the majority of the large assembly facilities eventually will wind up in the hands of the major manufacturers is expressed in industry circles.

It is pointed out that pre-war plants as such no longer exist. Equipment and other changes to fulfill the needs of war completely changed them.

In 1940, there were 25 engine, 15 engine, and four propeller plants. The war expansion has raised those figures to 49 engines, 17 engine and seven propeller factories. In addition are the multitudinous sub-assembly and component plants. Nearly all the construction, 95 percent according

to one estimate, was financed by the government.

In sum, the foregoing means that use of war-built facilities is practically indispensable for most aircraft firms. However, there has not been no close-out indication of the method by which companies will seek to continue use of the plants. It is not a matter of joint industry effort, it is explained, but rather a problem for each firm.

Lease or Buy—The industry in concert has made some general

Aircraft Aircraft Corp.

Belmont Aircraft Corp.
(Plant located in middle of company's previously owned plant.)
Boeing Company
(Under Drive Plant)

Chase Aircraft Corp.

Consolidated Value Aircraft Corp.

Fairchild Engine & Aircraft Corp.
(Chicago Aircraft Division)

Ford Motor Company
(Engine Mount Aircraft Engine plant)

General Aircraft Company

General Railway Signal Company

Grain Processing Company

Herman Aircraft Corp., Inc.

Lock Manufacturing Company

McDonald Aircraft Corporation

McDonnell Aircraft Corporation
(Airport Plant)

Moore, Inc.

Modell Aircraft Center No. 2

Modell Aircraft Center No. 7

Modell Aircraft Center No. 10

Modell Aircraft Center No. 11

Modell Aircraft Center No. 12

Modell Aircraft Center No. 13

Modell Aircraft Center No. 14

Modell Aircraft Center No. 15

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Modell Aircraft Center No. 26

Modell Aircraft Center No. 27

Modell Aircraft Center No. 28

Modell Aircraft Center No. 29

Modell Aircraft Center No. 30

policy recommendations pertaining to leasing, but whether an individual company should lease or buy must be its own decision. RFC, disposal agency for the plants apparently has no preference, working only to make the best deal for the government, without handing to the producer.

The War Department has indicated a willingness to meet the manufacturers' desires. In its statement listing the plants declared surplus, it stated that while some plants were being retained for "stand-by," the Army would, so far as possible, permit any of them to be purchased, and retain other plants.

Subject to that condition, the War Department declared the following plants as surplus (those not starred are owned by the War Department, but handled by RFC):

Midwestern, Ohio**

New Castle, Delaware

East Ohio Drive and 31 1/2 St. Ave.
Detroit, Michigan

322 324 St.

San Francisco, California

Valley Field

Dorsey, California

10-10-10 Junction Avenue

Queens, New York

Dorchester, Michigan**

Toscan, Massachusetts**

121 Lincoln Avenue

Hackensack, New York

10000 Ridge, Michigan**

10000 Ridge, Michigan**

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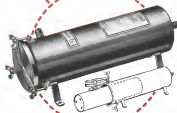
10000 Ridge, Michigan**

10000 Ridge, Michigan**

10000 Ridge, Michigan**



AIRBORNE DEHYDRATING EQUIPMENT



This D-10 Dehydrator Unit for the B-29 Bomber is just another practical application of the Russell E. Gannon System for the control of moisture content, relative humidity, and dew point of air and gases. The unit including its dehydrating cartridge weighs but four pounds and has a moisture pick up capacity of 50 grams of water while maintaining a dew point of 90° F below zero.

The Gannon System is applicable to many other

dehydrating problems, and usually eliminates expensive and cumbersome installations.

The dehydrating chemicals are so inexpensive to replace as to be expendable at a negligible cost.

Provision tested dew point after change indicates one available to insure accuracy of working conditions.

If you have a dehydrating problem, consult Gannon. Gannon's Engineers welcome your inquiry.

Russell E.
GANNON
CONDITIONING EQUIPMENT
Cincinnati 2, Ohio

B-24N Changeover Extent Revealed

More than a half million tooling hours—half as many as required for all the master changes in the first 7,000 Liberator bombers produced at Willow Run—were needed to make the changeover to the B-24N.

The B-24N was being developed by the AAF to supplement the heavier bombers in dealing final blows to Japan. Although production was scaled down during the changeover last Spring, the AAF had planned to boost production of the new plane to a 100-a-week rate by fall.

Single Fin—Fundamental design changes, including increased horsepower and a single vertical fin instead of the twin tail, gave the Consolidated Vultee planes increased range, more speed, appreciably more ceiling and greater aerodynamic stability. In the tail section alone, 1,400 new parts were required. Aside from the same steps in making new dies and fixtures to produce parts for the B-24N, more than \$90,000 was spent to rework the physical structure of the plant in the final assembly area in order to handle the different dimensions.

Improved Pratt & Whitney engines made available 600 extra horsepower. The new tail, test pilots reported, provided greater flight stability. Other improve-



New de Havilland four horsepower propeller.

ments not previously reported included a new ball turret in the nose, a deicing and heating system utilizing the engine exhaust heat, a new canopy over the pilot's deck and higher turrets.

Before the last orthodox B-24 was made June 25, Ford engineers virtually had completed the re-tooling of Willow Run and already had completed eight of the new models.

No. 1 Air Problem Cited By Ladd

One of the most important problems facing tomorrow's aircraft industry, in the opinion of E. M. Ladd, executive vice-president of Consolidated Vultee, is how to get an airplane through the "area of compressibility reached at the speed of sound."

Ladd, pointing out that high speed reached through jet propulsion and gas turbine-driven propellers demands new types of airplanes. He says that "progress in the design and production of aircraft is not ending, but just beginning."

Vast 'Fleet' — Such developments, said Ladd, in the company's paper Plane Talk, will make it possible to build great commercial fleets such as we never knew in previous years and these same developments will make our present military air forces obsolete in five years.

Once the wall of compressibility has been pierced, Ladd explained, aeronautical engineers and designers expect that flying conditions will immediately return

to normal, allowing extremely high speeds at relatively small horsepower.

"While the airplane is flying at today's ordinary speeds, the air flows over and under the wing, around the fuselage and tail . . . but when we begin to approach sonic speeds we meet a new phenomenon instead of the air parting and flowing around the wing, some of it piles up. The effect, when you are flying a plane, is like that of hitting a brick wall, and the turbulence of the air buffets the plane violently."

That is the "wall" that must be pierced.

New de Havilland Props Fit Lower Hp. Engines

Two new propellers for lower horsepower engines have been announced by the propeller division of de Havilland Enterprises in England—one a three-blader with the new reverse-pitch feature suitable for engines of 150 to 250-hp. and a single propeller for light airplanes in the 150- to 250-hp. class.

The three-blade hydramatic model gives some 25 degrees of constant-speed range within a total of 130 degrees of angular movement that embraces not only feathering, but also reverse-pitch for power-on braking to shorten the landing run.

Diameter at 7.5 feet; wide forged blades of aluminum alloy are fitted and the weight is 100 pounds, plus 30 pounds for spacers, feathering equipment and control unit. Rate of pitch change is in the order of 30 degrees per second. The mechanism is basically the same as the standard hydramatic, but with 2-shafted cam shafts to give the third shape needed for braking.

Kinner Air Interest

Interest of Kinner Motors, Inc., the aviation field will be emphasized by giving added attention to design and engineering according to John N. Gladden, new president of the company, who said that Gladden Production division of Kinner is rapidly broadening its service to the industry in the hydraulic field.

Kinner's entry into the small horsepower stationary gasoline engine field has expanded the company's line. During Gladden's 15 years' experience in the aviation field, he stressed design and engineering.

Proved in Action



FOR EFFICIENT PERFORMANCE

D-X Aviation Oil has been used every day all over the world in warplanes of the United Nations—and it has performed gallantly. It is manufactured to meet the specifications of U. S. Navy Symbols 1100 and 1120 Aircraft Engine Lubricating Oil. Characteristics include maximum resistance to carbon, sludge and lacquer formation, maximum power performance and enduring film strength. Seen available for civilian use—inquiries invited.

MID-CONTINENT PETROLEUM CORPORATION

TULSA, OKLAHOMA

Tool Sales Set

Decision on the long-pending question of disposition of aircraft tooling in government-owned plants has been made by the Surplus Property Board with permission for various agencies to sell the equipment directly to manufacturers.

Under an amendment and special order to Regulation 8, SPB approves the disposal of special aircraft tooling in all plants by negotiated sales. The tools will not have to be declared surplus. Previous orders covered only machine tools, not jigs, dies and other fixtures, and applied only to government-owned equipment in private plants.

Add—The amendment, while not yet stated for all its ramifications by the industry, is expected to give greater return to civilian producers.

COMMENTARY

Radar Weather Forecasts Head For Peacetime Uses

Two-year-old AAF Weather Service succeeds with radar equipment in detecting storms and analyzing winds aloft presages new protection for civil aircraft; use at all airports suggested.

From time to time unexpected new angles on the war's miracle maid-of-all-work, radar, may be expected. And, as usual, most of them, unlike the atomic bomb, will be wholly constructive, with obvious and encouraging peacetime applications.

For more than two years the Army Air Force Weather Service, which has become global in its coverage, has been employing various types of radar equipment and radio direction finding sets in its highly important task of detecting the approach of storms and analyzing the winds of the upper world.

High Tracking—By utilizing a gas-filled balloon to carry a suitable reflector aloft, the direction and movement of upper air winds can be determined by tracking with ground radar the reflector as it moves with the wind layers aloft.

This procedure enables the determination of upper winds under conditions which prevent the utilization of the visual methods heretofore used. Special radar equipment is not necessary, and the Weather Service uses on a part time basis all available sets already in the theater, assigning as many of its own radar as possible and training personnel to go with them.

The set most frequently used is a piece of Signal Corps radar equipment designed for searchlight control and anti-aircraft artillery control, but later developed by the IX Tactical Air Command as a vital link in fighter control operations.

Long Range—This radar set will track a corner reflector attached to a balloon for a distance beyond 60,000 yards with ease, with a high degree of accuracy.

The first member of the crew

records the data on the plotting board and computes the winds. The radar operator tracks the balloon in range, calling off the range every minute from his scope. Simultaneously the elevation and azimuth dials are read off every minute by the third man. At the completion of the run the report (called a "tower" message) is transmitted by teletype to all stations on the weather circuit.

The radio direction finding technique was developed a bit later. Instead of a corner reflector whose position can be detected by radar, a CW (continuous wave) transmitter is attached to the balloon. Its direction is determined by RDF, and its altitude is measured by momentary intercepts of the CW signal.

Lower Performance—Although less expensive and easier to maintain, the RDF performance is not equal to that of radar. However, more and more stations are being set up, and the two methods between them have just about all the word problems solved.

Microwave radar is able to detect concentrations of large water drops falling through the atmosphere as precipitation or associated with strong vertical currents.

There are several ground radar sets which pick up weather targets well, including the one most widely used in the "nowin" program. The versatile MEW set (microwave early warning), despite a limitation in the vertical plane, has performed an outstanding service in Europe and in the Pacific in storm detecting and aircraft vectoring.

Main Use—This guidance of aircraft around thunderstorms and rain areas, particularly the numerous high fronts in the Pacific, is the most important tactical application of radar storm detection



UNITED'S 'PARTING SHOT'

This Flying Fortress, described "Our Parting Shot at Tokyo," was the last modified at United Air Lines' Chryseas modification center. Approximately 5,500 of the ships were modified at the center, which was opened in 1943.

The ideal situation would be to have suitable radar equipment at all airfields, with RDF scopes (plain position indicator—circular) available to all personnel controlling aircraft.

Such a radar network could give a running picture of serious disturbances and maximum use could be made of the data by means of direct communication between radar observers and aircraft in the vicinity. No such setup exists at present, but extensive tests to evaluate such procedure may be expected in the near future.

Weather Plane—About a year ago a special "Weather" B-24, packed with radar equipment—two radar altimeters, RDF, the AAF blind approach system (radar GCA, which operates on the ground, with nothing in the plane but a VHF communications set), and modifications of "Mickey," the device for bombing through overcast, was sent to the Pacific theater. With the beginning of the B-29 missions from the Marianas last November, the B-24 weather missions played a vital part in the Superfortress operations by providing up-to-the-minute data which otherwise would not be available. Information gained by radar supplemented the standard methods of weather measurement, was useful in compilation of current weather reports and for constructing weather maps over ocean areas or land territory, and still will be.

NAVIGATION

COLLINS 33RA RADIO TRANSMITTER*



A deservedly popular 50 watt

The COLLINS 33RA* was introduced in 1939 as a quality designed, quality built radio communication transmitter, broad-ly adapted to most applications within its power and frequency scope.

It, or its d-c version—the 33RB—was immediately put into service by airlines for control towers, by oil pipelines for emergency systems, by fishing companies for fleet control, and by other widely different types of industrial users.

It was found to be rugged, simple to operate, easy to service, and so thoroughly and universally satisfactory that a rising commercial demand was halted

only by the war. During the entire war the Army Air Forces have employed thousands of these transmitters. A typical use has been that of control towers on air training fields throughout the country.

Of the several up-to-the-minute transmitters which Collins has ready for its civilian customers as Government requirements are cut back, this one represents a type of which limited quantities are now being manufactured for essential civilian uses. If you would like specifications and design data, write us for our illustrated bulletin. Collins Radio Company, Cedar Rapids, Iowa, 11 West 42nd Street, New York 18, N. Y.



*COLLINS 33RA—Power source, 115 volts alternating current. Power output, 50 watts phase 70 watts CW. Frequency range, 1.2 to 12 mc. Four frequency controls (subject to model specs).
*COLLINS 33RB—Power source, 115, 24, 30 or 110 volts direct current. Output, 50 watts all frequencies. Otherwise identical with 33RA.

***** IN RADIO COMMUNICATIONS, IT'S ...





25 YEARS of Air Transport Progress
IN 30 SECONDS READING TIME

Yesterday: First scheduled coast-to-coast air mail flight took off from Honolulu, L.H., on September 8, 1920. Route followed was the historic Overland Trail—pathway of American progress—highway of the pioneer schemer, the Pony Express, the stage coach. The complete cross-country took high 82½ hours... made in combination air-rail relays... in converted war time De Havilland flyer—fast trains by night. Parker fittings gave reliable performance in early start of the north-bound dogs.

Today: Modern United Air Lines Douglas DC 3 Monomers fly coast-to-coast overnight. Associate air lines link every part of country and many points of globe with safe, on-time flights despite increased wartime traffic. Parker tube fittings, valves and related products being given unqualified endorsement by both civil and military operators as well as military aircraft builders for superior performance and dependable service.

Tomorrow: Coast-to-coast one stop flying in less than 10 hours—in planes carrying more than 50 passengers. Sky gods, now as manufacturer's driving boards, will make possible one night flights to any city in the world. Parker's products—proven in peace and proved in war—will continue to sustain the wings of transport in the coming age of flight.



PARKER PRODUCTS

THE PARKER APPLIANCE COMPANY • Cleveland • Los Angeles

FINANCIAL

Air Cargo Market Survey In Philadelphia Is Typical

Analysis of shipments confirms findings in other areas; types of cargo and other considerations found to be the same there.

As a part of its domestic market survey of post-war air cargo potential, Air Cargo, Inc.'s field representatives conducted 222 interviews with companies in the Philadelphia area. While the sample of an industry in a single area

such as Philadelphia is too small to be used as the basis for definitive statements, nevertheless the results of the study were of sufficient importance to merit discussion in this column.

The interviews were divided

	Total Interviews
Manufacturing	144
Retail Trade	29
Wholesale Trade	54
Financial, Service Establish- ments, and Special Surveys	21
Total	248

The great majority of the analyses of shipments were developed by the field investigators through an actual sampling of shipping and receiving records to obtain data on origin, destination, method of transportation, weight per shipment, and value per shipment.

The selection of inter-systems trans-

	Surveyed with Shipments	non-surveyed Foreign
1	50	50
2	7	18
3	17	28
4	7	8
5	104	87

based upon the value of production in each industry in Philadelphia in relation to the value of production in all markets to be covered.

Detail surveys were conducted for the most part in general merchandise and apparel stores. A florist and several photo shops

stores were also covered. The wholesale surveys were distributed among each of 33 classifications of wholesale trade. In addition to the surveys in the manufacturing, retail and wholesale fields, studies were also made in the following service establishment or special classifications:

Funds
 Security Dealers
 Insurance Companies
 Advertising Agencies
 Funeral Directors
 Commercial Photographers
 Automobile Body Repairs
 Machinery Repairs
 Dock Builders and Dredgers
 Consulting Engineers
 Industrial Engineers
 Watchmakers

The following tabulation classifies the various types of business covered in the survey on the basis of the relative size of the air cargo potential indicated by the study in Philadelphia at the hypothetical rates noted in the table below:

The voluminous nature of the survey prevents a detailed discussion here of each of the industry interviews. It is possible, however, to present summaries of the groups that offer the largest aerospace potential.

Men's clothing and furnishings, for example, offer a substantial volume of air cargo. First, railway express is a regular method of shipment for the smaller size shipments as well as for rush shipments. Almost all of the Philadel-

Relative size of Indicated Potential in Various Industries Covered in the Philadelphia Area

[illegible]

plants manufacturers interviewed recognized the advantage of air transportation both to themselves and the retailer. Speed is important because (1) the business is seasonal, (2) retailers carry limited stocks, (3) sales could be increased up to 10% especially in more distant areas, (4) merchandise would arrive in better condition for sale, and (5) in the case of stock houses, their existence is based on quick delivery and the retailer relies on such houses to carry stocks.

The printing and publishing of magazines provides a large potential market for air transportation in the shipment and receipt of electrotypes, plates, copy and proof. But, here, it is the advertising agency or publisher to whom speed is most important. If a newspaper receives a plate late, it runs it the next day.

The survey indicated that general magazines (as distinguished from news magazines) or trade magazines were unlikely to move by air at the hypothetical rates used in studying the Philadelphia market. Likewise, newspapers indicated an unimportant air market. One Philadelphia circulation manager expressed doubt that the selling area of his paper could be increased because (1) a newspaper cannot pay a great deal for transportation, and (2) the area of circulation is restricted by other papers.



COWLINGS FOR PEACE:

Industries of the mass producers of aircraft which contributed to the armaments of the Germans and Japs are these engine cowlings for Douglas C-54 Skytrains at the company's El Segundo plant. They will now be used for peacetime planes.

Among the wholesale business, the survey indicated an important market for the shipment and receipt of jewelry, diamonds and optical supplies.

In this group, speed is important for a number of reasons. First, the business is extremely seasonal, where coal is no object in far as getting merchandise for the Christmas period is concerned. Second, large sums of money are tied-up consuming long distance surface hauls. Third, samples can be expedited by moving all samples by air. Fourth, cancellations can be considerably reduced at the seasonal peaks such as Christmas, Easter and Graduation.

If one large wholesale florist covered proves to be representative of the business, most shipments and receipts of flowers moving long distances will be shipped by air even if the rates are high. Among the reasons given for the desirability of air transportation were the following:

1. Individual flowers have a "style" or "popularity" factor, and it is important to meet this changing demand.
2. Some flowers such as lilies are highly seasonal.
3. Flower prices are very unstable.
4. Cost of refrigeration on most varieties can be saved.
5. Out of town rush orders could be filled.

However, the florists will insist

on certain qualifications, namely, (1) dependable air cargo service, (2) flowers must be protected against extreme heat and cold, and (3) provision must be made to protect the flowers from crushing.

Cutbacks Absorbed At Noorduy Plant

Cancellations at Noorduy Aviation, Ltd., have affected some minor subcontracts but, unless there are further contract terminations, no large reduction in the numbers of employees is in prospect.

The company employed 11,900 workers at the peak of war production and today has 4,750 on the payroll engaged in five major projects. These are production of 25 Marauder advanced trainers per month for the RCAF; production of component parts for the four-engine Lincoln bomber, successor to the Liberator, under contract from Victory Aircraft; production of Mustang components under subcontract from the de Havilland company, production of the Norseman, and regular overhaul and conversion work.

F. U. S. Order Bell—R. B. C. Noorduy, president, said that some months ago United States orders for the Norseman were stopped and employment was reduced proportionately as the deliveries of aircraft and spare parts tapered off. This process, he added, is not yet entirely completed.

Noorduy said that a considerable number of inquiries for Norsemen have been received from 15 countries and that there is known to be a shortage of "bush-type" aircraft. The result, he said, has been a trickle of orders for the improved Norseman, a transport plane for civilian purposes. He expects this to increase as the opening up of manpower supply permits the expansion of mining development.

"At the same time," he added, "in Canada, as in other countries, the manufacture of commercial aircraft cannot be expected to grow into a self-supporting business unless the basic facilities and organization necessary are sustained by government orders. In the interim and perhaps as a permanent condition. The international and announcement of a government policy in this respect has become an immediate and vital necessity."

your safety can hang by a thread

Like spaghetti? Not at all! As for safety, you'd be hard to worry about flying cross when you have the protection of **AIRADIO**, there is no need for any communication equipment to light that it can do by a thread. . . . (except the fact that it gives you more power per radio voice in superior radio range, weather broadcast, radio-phones and standard broadcast reception)

AIRADIO is convenient in your plane, too. The actual size of the panel showing it is nearly larger than a group portrait. And don't forget **AIRADIO** is easy to install and operate. Only two switches and one tuning dial, operating from the receiver panel. Bring you all the safety and entertainment you want.



AIRADIO
INCORPORATED COMMERCIAL EQUIPMENT
PRODUCTS OF AIRBORNE—1945

N. Pacific Route Recommended For NWA By CAB Examiners

Report would give Pan Am other share of trans-Pacific air travel by extension of existing routes; closer links with Alaska indicated as Territory line gets favorable consideration.

By MERLIN MICKEL

The youngest U. S. transoceanic air carrier and the oldest U. S. international airline would share trans-Pacific air travel between this country and Asia under recommendations of Civil Aeronautics Board Examiners Ross J. Newman and Lawrence J. Koster in the Pacific case.

Their report, if approved by the board, would give Northwest Airlines a share flying from Seattle to New York, a route from the continental U. S. to New York and Chi-

cago across the North Pacific to the Philippines. **Philippine Link** — In the South and Central Pacific, extensions to Pan American Airways' existing routes would carry them on to Australia and India and give Pan American a connection with its European route to Calcutta, awarded in the North Atlantic case.

These extensions and Northwest's new route would be authorized for seven years, time limit

set by the board on new certificates in the North Atlantic area.

The examiners, last week, also recommended that Alaska Airlines be allowed to fly to Seattle from Anchorage, and that Western Air Lines' AM 58 from Great Falls, Mont., to Lethbridge, Canada, be extended north to Edmonton, where it would connect with Northwest's route through Alaska to the Philippines.

U. S. Casefiles — Thus, the northern route to the Orient would tap the U. S. directly and through connecting lines in the east at New York, the mid-west at Chicago, the Rocky Mountain area at Great Falls, and the Pacific Northwest at Seattle. Eastern terminals of Pan American's Central and South Pacific routes would be, as at present, San Francisco and Los Angeles.

Newman and Koster drew on the board's North Atlantic decision in recommending two-carrier service across the Pacific. Pan American asked to fly the North Pacific route from Seattle, and requested a substantial raise in other international cases against competition.

On the segment by PCA and TWA that they can develop, the board's U. S. share can Northwest, since they serve more ports there, the examiners expect most of the traffic originating east of the Mississippi River and Alaska and the ocean to come from New York and Illinois Northwest already serves New York City and Chicago.

Pioneer Route—There is no common air route across the North Pacific at present, and Pan American is the only carrier certificated in the Central and South Pacific II as authorized to fly from San Francisco to Hong Kong via Honolulu, Midway, Wake, Guam, and Manila, and—until April 29, 1948—from Manila to Singapore. Under another certificate, it may operate between San Francisco and Auckland, New Zealand, via Los Angeles, Canton Island, Suva and Noumea.

CAB's examiners would extend the Central Pacific route from Mexico to Manila, Java, via Singapore, and five Midway Island to California via Tokyo, Shanghai, Hong Kong and Bangkok.

In the South Pacific, they recommended extension from Noumea to Sydney. The latter would be permanent, the others for seven years.

To shorten the Manila route for through traffic, the proposal was made that Pan American be permitted to operate nonstop between Honolulu and Wake, bypassing Midway.

South Pacific—Pan Am's request for an extension from Noumea, New Caledonia, to French Australia, was the only South Pacific application in the proceeding.

In the Central Pacific, other applicants are Hawaiian Airlines,

west, the examiners found, because of its wartime operating experience over a large part of the proposed route between the U. S., Alaska and the Aleutians, and the availability of well-qualified supervisory personnel familiar with the type of operation involved.

TWA Routes—The report recognized TWA's similar experience in the North Atlantic area, but pointed out that "in view of the substantial amount of traffic in the Atlantic requiring a major expansion in that company's finances and personnel, it is not believed it should be certificated across the Pacific as well."

PCA was said to have had no experience in long over-water flying and little in long-distance operations in cold climates.

On the segment by PCA and TWA that they can develop, the board's U. S. share can Northwest, since they serve more ports there, the examiners expect most of the traffic originating east of the Mississippi River and Alaska and the ocean to come from New York and Illinois Northwest already serves New York City and Chicago.

Pioneer Route—There is no common air route across the North Pacific at present, and Pan American is the only carrier certificated in the Central and South Pacific II as authorized to fly from San Francisco to Hong Kong via Honolulu, Midway, Wake, Guam, and Manila, and—until April 29, 1948—from Manila to Singapore. Under another certificate, it may operate between San Francisco and Auckland, New Zealand, via Los Angeles, Canton Island, Suva and Noumea.

CAB's examiners would extend the Central Pacific route from Mexico to Manila, Java, via Singapore, and five Midway Island to California via Tokyo, Shanghai, Hong Kong and Bangkok. In the South Pacific, they recommended extension from Noumea to Sydney. The latter would be permanent, the others for seven years.

To shorten the Manila route for through traffic, the proposal was made that Pan American be permitted to operate nonstop between Honolulu and Wake, bypassing Midway.

South Pacific—Pan Am's request for an extension from Noumea, New Caledonia, to French Australia, was the only South Pacific application in the proceeding.

In the Central Pacific, other applicants are Hawaiian Airlines,

Pacific Case Recommendations

Recommendations by CAB Examiners Ross J. Newman and Lawrence J. Koster in the Pacific case were:

- That a certificate be issued to Northwest, authorizing service for the type of operation involved on the continental points New York, Chicago and Los Angeles, to Seattle, Edmonton, Anchorage, Fairbanks, Tokyo, Shanghai, Hong Kong and the terminal point Manila, Philippine Islands.
- That the American certificate be amended to include the Central Pacific route from San Francisco to Honolulu, Midway, Wake, Guam, and the terminal point Tokyo, Japan.
- That the American certificate be amended to include the South Pacific route from San Francisco to Honolulu, Midway, Wake, Guam, and the terminal point Sydney, Australia.
- That Pan American's certificate be amended to include Anchorage, Seattle and Fairbanks subject to the condition that the latter three points and enroute service between Seattle and Fairbanks be terminal points.
- That Pan American's certificate be amended to include Anchorage, Seattle and Fairbanks subject to the condition that the latter three points and enroute service between Seattle and Fairbanks be terminal points.
- That Pan American be authorized to provide through service between Honolulu, Wake and Wake Island.
- That Pan American's certificate be amended to provide for service between Honolulu, New Caledonia and French Australia.
- That a certificate be issued to PCA authorizing service between Seattle and Anchorage, and between the terminal point Anchorage and Seattle.

for a route between Honolulu and Shanghai via Midway, Wake and Hawaii Islands, and Tokyo, and N. N. K. Air Corp., for helicopter-shuttle operation between Washington and Canton via Los Angeles, Honolulu, Singapore and British Malaya.

The examiners dismissed U. S. Airways as a "paper corporation" without assets or liabilities, and found that Hawaiian, a regional hotel operator with about 150 miles of routes in the Hawaiian Islands, asked that the route be awarded to it because it had no experience in long over-water flights such as would be required on its proposed route. They proposed that both these applications be designated intermediate rather than terminal points.

Alaska Routes—Because of the complexity of the case, Newman and Koster give separate consideration to U. S.-Alaska proposals, in which Pan Am, United Air Lines, Western, Alaska Airlines and Western Airways asked new or additional service between the U. S. and Alaska, and Northwest PCA and TWA sought to serve the Territory in connection with their applications for routes to the Orient.

Only commercial air routes between the U. S. and Alaska now exist between Pan Am's terminals Seattle and Great Falls, the latter route via Lethbridge, Canada, which it now serves on AM 55. The examiners suggested instead that CB be extended to Edmonton,

Alaska, via intermediate points Juneau, Fairbanks, and Whitehorse, and that the latter be consolidated, leaving only Juneau and Whitehorse as intermediate points, and recommended that its certificate be amended to include Anchorage as intermediate point between Juneau and Fairbanks, on condition that Anchorage-Fairbanks local traffic be carried only on flights starting or ending at Seattle.

Western sought to fly between Alaska and U. S. terminals Seattle and Great Falls, the latter route via Lethbridge, Canada, which it now serves on AM 55. The examiners suggested instead that CB be extended to Edmonton,



Pacific Routes—Present and Proposed: Map of the area involved in the Pacific case shows existing routes and those recommended by CAB examiners. Suggested extensions are Northwest Airlines for the North Pacific route (dash line); Pan American Airways for Central Pacific (dotted line); Pan American for the South Pacific (dash-dot line); Alaska Airlines between Seattle and Anchorage, and Western Air Lines from Lethbridge to Edmonton, for the U. S.-Alaska routes.



Swedish Air Board Officials Here: Pictured as they arrived at LaGuardia Field are Swedish aviation officials who are visiting the U. S. to discuss a route by SLLA (Swedish Intercontinental Airlines) across the North Atlantic. Left to right are Gunnar Johanson, chief construction engineer of the Atlantic airport at Stockholm, Carl Ljungberg, director general of Sweden's Royal Board of Airports, Tage Jansson, chief of the Royal Board's traffic division, and Tore Nilert, SLLA official.

where it would meet Northwest's proposed North Pacific route. The latter would also connect with Pan American and Alaska Airlines routes to the U. S. at Anchorage.

► **Woodley Request** — Woodley asked to operate between Anchorage and Seattle, while United requested a route to Fairbanks via Seattle and various Alaskan points. As one of its arguments, United pointed out that it could give direct one-carrier service to 33 percent of U. S. population, including West Coast cities with which Alaska has a principle community of interest, and the industrial East.

But the examiners decided that the route should go to an Alaskan carrier, and suggested Alaska Airlines, request an extension in the Territory, as the use best able to originate traffic at Alaska points and distribute traffic from Seattle.

The board's final decision in the Pacific case, as in all involving overseas or foreign applications, is subject to Presidential approval.

Fuel Jetson Valves To Be Required Again

Fuel dump valves will be required again on planes used in scheduled air transport operations when Civil Aeronautics Board's repeal of Special Civil Air Regulation 342 takes effect Sept. 25.

To aid in meeting a wartime transportation crisis, the board, on July 12, adopted the regulation permitting use until Feb. 1, 1945,

of aircraft not equipped with means for dumping fuel. The latter had asked the board to waive the dump valve requirement to allow them to acquire direct from the production line additional planes promised by the Army.

► **Need Rotax** — With equipment prospects becoming more favorable the board is discontinuing the regulation as no longer "required for the war effort."

Swedish Officials Here, Study Route

Swedish aviation officials have come to the U. S. to discuss arrangements for scheduled air service by Swedish Intercontinental Airlines (SLLA) between Stockholm and New York via Canada or Newfoundland.

The route, on which survey flights are being made, would parallel that granted to American Export Airlines, by the Civil Aeronautics Board, to the Scandinavian countries and thence to Leningrad and Moscow.

► **Visitation** — Heading the group is Carl Ljungberg, director general of the Royal Board of Civil Aviation, CA's Swedish counterpart, who is conforming with CA's, the State Department, and the Air Transport Command. With him are Capt. Tage Jansson, chief of the Royal Board's traffic division, who will study communications and traffic control methods, and Gunnar Johanson, chief construction en-

gineer of the Atlantic Airport at Stockholm, who is studying U. S. airport construction, particularly at Idlewild.

Direct Local Routes Favored Over Loop

Direct rather than circle or loop routes for local service air operations and consideration of population as a major factor in providing air service to small communities were favored by Public Council in objections to a Civil Aeronautics Board examiner's report in the Rocky Mountain Area case.

First of the regional proceedings before the board for decision, the case may set a precedent for certification of local and feeder routes.

► **Reasons** — In a brief supporting his exceptions to Examiner William J. Madden's report (AVIATION NEWS, June 4), Public Counsel Robert B. Hinkins said the examiner had recommended certain routes that were largely circuitous. This, he said, would result in high fares and discourage traffic.

Public Counsel also mentioned that Madden considered isolation as the "controlling factor" in his recommendations. Agreeing that this was an "important factor," Hinkins said, however, that population should receive the greater consideration.

Other exceptions—chiefly of a specific nature—have been taken by Frontier Airways, Braniff Airways, Mountain States Aviation, Key Wilson, Inc., Mooney and Hansen Flying Service, United Air Lines, Colorado Airlines, Western Air Lines and Island Air Lines, and Midwest Airways.

► **Postponement** — Oral argument in the case has been postponed from Sept. 16 to Oct. 1.

Civil Version Dominant

A civil version of the de Havilland DH 89C Dominie, formerly used as a military transport and radio training ship, is being produced by de Havilland to answer demand for the ship from the British Dominions, Turkey, the Middle East and Ireland.

Some of the Dominies have been released by the RAF for operation on England's Jersey Airways, functioning again, for the first time since the Nazi invasion of the Channel Islands, between London, Jersey and Guernsey.

Idlewild Leases Set Highest Airport Charges In Country

Airline executives believe better facilities, however, compensate for fees; 12 lines sign for period that, with renewals, may last 50 years.

By MARTIN V. MERRITT

An involved formula for determining rental based on activity, plus charges for leased space, control tower charges, and retail increase of \$20,000,000 federal aid is not obtained, combine to provide a total cost to the airlines for use of New York's Idlewild Airport that will be the highest in the country.

Activity charges, or landing fees, are about 25 percent higher than those at LaGuardia Field, which now holds the record with Chicago for the highest fees in the country.

In a lease consisting of 70 pages and 12 drawings, a project which with renewals may last for 80 years has been undertaken by American Airlines, American Export Airlines, Eastern Air Lines, National Airlines, Northwest Airlines, Pan American Airways, Pennsylvania—Central Airlines, Trans-Canada Air Lines, Transcontinental and Western Air, United Air Lines, British Overseas

Airways Corp., and Swedish Intercontinental Airlines.

Territorial building space fees are higher than usual but airline executives point out that in the proposed \$12,000,000 structure they will be getting far better facilities than are available at other large airports throughout the country. Space on the lobby floor costs \$5 a square foot, which is comparable with LaGuardia but higher than other airports. Ground space is \$300 an acre, about standard, and arcade rentals are somewhat lower than at other ports.

On the basis of anticipated traffic, Idlewild rentals will be low on a per passenger calculation.

► **Four Renewals** — The lease provides an initial term of not more than 10 years, with four optional renewal periods of ten years each, with a 25 per cent rental increase effective with each renewal.

The city will collect 10 per cent

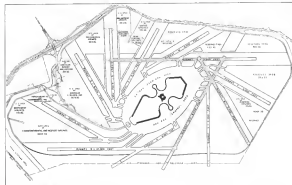
of the revenue from ground transportation of passengers or cargo to the airport, whether this be done by the airlines or a contractor, as is now the case at LaGuardia.

The activity rental scale sets a fee of \$300 per month for each of airline's first three schedules, \$190.36 for each of the next four schedules, \$64.18 a month for each of the next five schedules, and \$34.36 per month for each additional schedule. A formula is provided to cover daily flights and those which are less frequent, as well as the use of aircraft with a gross weight in excess of 33,600 pounds. Extra services, courtesy flights, towing, inspection and similar operations are exempt from this charge.

Charter flights by regular airlines incur a fee of \$1.50 plus an overweight charge.

The city waives in the lease any control over fares, rates and charges made by the airlines.

► **Ready In November?** — With the formalities of the leasing now disposed of, attention once again is centered on the progress of the initial construction—the three runways which Mayor F. H. LaGuardia says will be completed and ready for use by November 15, and the temporary terminal building which will cost \$125,000. This is to be followed by completion



Plan of Idlewild Airport showing final stage and airline site areas. Shaded runways are original three.



PANAMA TO HAVE NEW AIRPORT

Construction of a new \$7,500,000 Panama National Airport, capable of handling post-war planes, is in final stage. Architect's drawings show new entrance to administration building, a two-story reinforced concrete structure 525-ft. long and containing 395,000 sq. ft. of floor space, being designed by F. H. McGraw & Co. of Panama. Note passenger ramp to upper deck and windows and doors protected with overhangs against tropical sun.

three years later of an intermediate stage which will provide six runways and, at a later date, by a final phase that will bring hitherto to completion with 12 runways and a \$18,000,000 terminal building. Consulting Joseph McGoldrick of New York City estimates that final cost will be close to \$200,000,000, although current plans provide \$91,700,000 for the field, runways and terminal building, \$18,000,000 for the airside building which will house the actual arrival and departure facilities, and \$60,000,000 for the hangars for the twelve airways. With the latest addition, Interfield will cover 4,850 acres. Anticipated traffic through the airport after its completion totals \$2,851,000 through and local passengers a year.

PICAO Schedules Technical Sessions

Navigation and transport committees to meet Oct. 2 and 3; reconvening of council to follow by midmonth.

Work on the impending array of technical problems facing the Interim Council of the Provisional International Civil Aviation Organization (PICAO) at Montreal will begin early next month with the first meeting of the Air Navigation Committee, Oct. 2, to be followed the next day by an assembly of the Air Transport Committee.

Oct. 3 has been set for reconvening of the council after adjournment of current meetings.

▶ **Action Unit**—A special committee established under the chairmanship of Dr. Edward P. Warner, Council president, to formulate a plan for setting these two vital committees in operation also has drawn up a schedule of initial meetings for the more urgent of their sub-committees. The two groups will have the task of drawing up international standards on the subjects contained in the technical annexes outlined at the Chicago International conference.

Last week's meetings were marked by the arrival of Dr. Albert Raper, newly-appointed secretary-general of PICAO. Permission of the secretariat will now proceed as rapidly as possible in order

that a much-needed working organization may be effected by the time the council reconvenes.

▶ **ICAN Link**—Dr. Raper went to Montreal from the plenary session in London of the International Commission of Air Navigation (ICAN), of which he has been secretary-general for the past 32 years. He will combine the two posts, but said he expected ICAN's work would be diminished gradually as the scope of PICAO is developed. Duration will be avoided. Raper expects that PICAO will absorb ICAN eventually, but this is an condition of the coming into force of the Chicago convention.

The technical sub-committees whose schedule of initial meetings was adopted by the council were airways systems and landing areas and related aids, meteorological, rules of the air and air traffic control, communications, personnel licensing, airline operating practices, aeronautical maps and charts, and search and rescue and accident investigation. First meetings, unless postponed because of unforeseen difficulties, will be held between Oct. 8 and Nov. 14.

Airlines Allocated 21 Surplus Planes

The airlines recently received 19 C-55's and three C-47's from the sixteenth allocation of surplus transport planes. Total allocated here and abroad by the Surplus Property Board was 30 of the Douglas DC-3 type and four of the Lockheed L-4 Starliner type.

The C-55's were allocated as follows: American and TWA, three each; Eastern, Northwest, United and Pan American, two each; Continental, Mid-Continent, North-east, PCA and Western, one each. The C-47's: Chicago & Southern, Delta, and PCA, one each.

▶ **Reassignment**—Two C-53's went to TATA Airlines of Bombay, India, and three to China National Airways Corp. The French government received one C-41. The Lockheed's were allocated one each to Skunkhead Oil & Gas Co., Puente Tire & Rubber Co., Yankee Skyline, and Aetna Airlines (Mexico).

The sixteenth allocation brought to 287 the total number of DC-3 type transports distributed by SPB. Of this number, 139 went to domestic applicants and 88 to foreign.

Radical Fuel Shift Predicted For High-Altitude Transports

West Coast conference of oil company engineers points out requirement of high boiling point "safety fuel" and fuel injection to make proposed upper-air flights economically sound.

High-altitude air transport operations will require radical shifts in the use of high boiling point "safety fuel" and the adoption of fuel injection, in the opinion of leading West Coast oil company engineers.

The Society of Automotive Engineers aviation fuels and lubricants conference, held in Los Angeles gave new emphasis to the advantages of the new fuel and direct injection, reviewed at length in Aviation News, Aug. 8.

▶ **Club East**—At the Los Angeles meeting, aircraft engineers were told that in the use of current aviation fuels, extremely volatile, as much as 15 percent of the fuel lost at a large plane may "boil" away in the tanks in a single climb to 30,000 feet.

Reading a paper prepared by himself, F. G. Bailey and A. L. Sien-

ty, A. G. Cattaneo, research engineer of Shell Development Company of Emeryville, Calif., said:

"In large airplanes this may represent nearly 5,000-lbs. of weight. That much in payload has been lost rarely to provide easy

starting and good manifold distribution during warm-up, takeoff and climb. Certainly that is not economical!"

▶ **Two Answers**—Cattaneo said that the apparent solution of this coming problem of high-altitude air transport, where the conventional engine is used, lies in the use of safety-type fuels of a 300-400 degrees boiling range, and individual fuel injection in each cylinder to overcome starting and distribution difficulties in the use of the safety fuel.

Wright Aeronautical Corp's M. R. Rowe and G. T. Ladd recom-



SKYMASTER COLLAPSIBLE LADDER

The collapsible ladder, used in Douglas Skymaster (C-54) and transport, was invented by a civil engineer at the San Diego naval base. Design was purchased by Douglas Aircraft Co. The lightweight metal ladder stands beside the main cabin door (left) when folded. Base of the ladder has the electric motor operating its slide on short tracks within the ship to place it in unfolding position.



FIRST AIR VIEW, ALAMEDA:

First released aerial view of the \$100-million dollar Alameda Air Station. Thousands of the Navy's fighting and transport aircraft have been served here before starting to Pacific fighting area. At night are two acres at which carriers are moored. To left of pier is a seaplane lagoon flanked by hangars. Scores of planes are parked on ramps in foreground. Rest of the installation includes shops, hangars, barracks and administration buildings.

merited serious consideration by airline operators of the advantages of water injection for aircraft engines from the standpoint of gains in engine cooling, altitude performance and fuel economy.

Howe told the conference: "Water is as effective as fuel when used as an engine internal coolant at high power output. This is important because it represents a fuel cost saving of approximately 25 percent with no increase in fuel weight."

A possibility that many in the aircraft industry do not appreciate their own resources was evident following the reading of a critical paper on airframe lubrication by D. H. Morrison, process engineer of Douglas Aircraft Co.

"Overall speaking, the lubrication of aircraft is in about the same stage of development as the greasecap stage in automobiles,"

Essair 'Sell-Out'

Essair's newly-started passenger flights have started a passenger response that was anticipated, says Mr. William F. Long, Dallas, president. Flights are now booked solid two days or more in advance.

The Texas has begun the service Aug. 25 with a flight between Austin and Houston. Two additional schedules were added two days later. Two daily schedules had been operating with solid load capacity since Aug. 1.

Concessionaire aviation, at least, is concerned.

Much of the radar equipment used by British aircraft and ground stations during the war was made by Canadian radio manufacturers and the government's Research Enterprises Ltd., Toronto. As the report points out, much of this equipment "will be released shortly and is directly applicable to commercial transport needs and will provide a valuable aid during the interim period while other aids are being adapted for this field. It is expected that the need for these aids will extend over a period of approximately five years."

TCA already has experimental radar equipment in operation at its operating headquarters at Winged for use in the conventional routes. The committee headed by Stevens is looking further ahead, however, in recommending that the frequencies from 1940 to 1950 megacycles be reserved for radio-telephone use of air travelers on transports who will want to talk to home and office while in flight.

TACA Opens New Costa Rica Route

Colombian company applies for six more Latin routes.

Inauguration of a new non-stop international flight between Bogota, Colombia, and San Jose, Costa Rica, and between Bogota and Quito, Ecuador, has been announced by TACA de Colombia. Permission of the Costa Rican government has been secured, survey flights have been made, and schedules will begin as soon as recently acquired airliners can be ready for service, according to Hernandez Lopez, assistant manager of TACA de Colombia.

Mr. Lopez, now visiting in New York City, stated last week that TACA de Colombia has applied to the United States government for allocation of six more Lockheed Lodestar. The line is now operating 1 DC3's, one 4-passenger Beechcraft, and 2 Lodestars. It is planned to add 4 Lodestars and the DC3's for cargo, while the other planes will be used in passenger service.

Speaking of the expansion of aviation in Colombia, Mr. Lopez stated that the theoretical need for large airports and 40 smaller landing facilities in that country.

Pusher Type DC-8 Revealed To Lines

Skylark version, mounting 38 to 48 passengers, has counter-rotating propellers back of tail cone.

Airline heads and engineers are receiving blueprint copies of a Douglas Aircraft Co. brochure on the new, pusher version of the DC-8 Skylark with request for comment on such features as increased passenger space, new power plant arrangements, and other departures from the original design.

The first Skylark was announced (AVIATION NEWS, July 10, 1944) as a 34-passenger plane, with gross takeoff weight of 17,300-lb., flight range of 600 miles with cruising speed of 190-mph, at 5,000-ft., power plant of two 700-hp. engines, and selling price around \$60,300.

Price Jump — The new version will carry 38 to 48 passengers and have a selling price probably around \$75,000. Power arrangement contemplated would mount two Allison 1735's under the floor in the nose section of the ship with long shafts to the rear to the propeller gear box.

Propeller arrangement is one of the notable features of the ship. Counter-rotating, they are to go back to the tail cone and aft to the empennage. This version of the Skylark is a development of the military pusher bomber design first flown last year.

Cruising speed for the plane up to 275-mph. are indicated, and some have estimated that it will be 30 to 35 percent more economical than prior conventional airplane designs. Good mechanical performance of the powerplant is anticipated, with only 1 percent loss through gearing.

Stable Safety — A major advantage claimed is that in takeoff the plane will be stable and true if one engine quits, without yawing or trouble such as airframe planes mounting outward engine. Absence of cowings and other wing fixtures will give unusually clean design and high performance characteristics.

One possible drawback, however, according to those who have seen the plans, is that the location of the propellers at the rear will put them out of the pilot's view and there may be some danger to ground personnel when the plane

is taxed and the tail swung in maneuvering.

Speculation repeatedly call for a takeoff distance for the ship of 2,350-ft. at sea level, with total gross weight of 32,500-lb.

Executive Opinion — The commercial design, however, has been mailed by the Douglas sales office at Santa Monica to engineers and presidents of 23 airlines. Douglas hopes to receive comments before it freezes the design, and no public statement is expected for two to three months.

New Service Sets Low Freight Rate

National Skyways Freight Corp., with fleet of Cessna's, starts operation at cost below scheduled carrier level.

The announced intention of National Skyways Freight Corp. to haul freight at rates below those of scheduled air carriers was being the monocharged Long Beach, Calif., company under close observation during recent months.

Following a month of preparation, including the purchase of a fleet of 14 B-17C bombers (five of which were sold subsequently), the group inaugurated service, Aug. 28, with two planeloads of California strawberries and grapes flying east and a third plane leaving New York for Long Beach with a load of household furniture for delivery to a van and storage company.

Low Overhead — Robert Prescott, National Skyways president, says

his line believes it can haul for less than airline rates and share a profit, and expects that "in comparison with the airlines, we have almost no overhead. We own our own planes, and a large percentage of our personnel have a stock interest in the company."

"And, at present time, everyone in the outfit doubles in hours. The president may be out washing down airplanes in the morning and out selling freight space in the afternoon."

"It is too early to announce any complete schedule of charges for our service, but we will contract with anyone to haul cargo airport-to-airport between Long Beach and New York for 35 cents a pound, and if a customer can offer us 2,000-lb. a week we can cut the price to from 20 to 25 cents a pound."

First Contract — For the east-bound first shipment, National Skyways contracted with Ralph E. Myers, Salinas, Calif., grower, who has been shipping in American Airlines' Convair Model 29 air freighter.

Ten thousand pounds of strawberries were flown out of Salinas in one plane, and a surplus load of grapes left Myers' packing at Bakersfield for Atlanta, Ga. Prescott said the shipments were contracted at a rate of 35 cents per ton mile, and added that he believes that rate will be reduced to 30 cents on a volume basis in the next six to eight months.

The company's president said that at present his firm will contract for furniture shipments at



LARGEST AIRPORT ROLLER:

Probably the largest inspection roller ever built for airport construction, this 100-ton unit is being used in preparing new runways at the Santa Barbara, Calif., airport. It is owned by Guaymas Brothers, a construction firm. Photographed beside it during inspection of the airport are (left to right) C.A. Offshore W. McKelvey Rowland, assistant district airport engineer, Santa Region; R. W. F. Schmidt, superintendent of airports, Santa Region; T. P. Wright, Chief Aeronautical Administrator, B. A. Hook, regional administrator, Santa Region; A. S. Kish, Assistant Civil Aeronautics Administrator; R. E. Bacon, assistant airport engineer, Santa Region; and C. B. Worthing, airport lighting engineer, Santa Region.

British Zeal in Perspective

THE WORLD-WIDE PUBLICITY given U. S. transport aircraft during the war has aroused harsh words in Great Britain, where national pride will not permit the thought that British aircraft can have serious competitors in quality and performance. The feeling gained from reading the British weekly, the *Aeroplane*, is that this country's predominance in airpower is due mainly to our native talents in mass production rather than to the quality of our products.

Probably no members of the British aircraft establishment are as busy in the first days of peace as its press agents. The immediate reputation of British civil aviation lies mainly in their hands.

But let there be no rash revisions in our evaluations of the two countries. America has far more new civil aircraft than the British have as yet been able to put into production. British manufacturers know they are at a disadvantage in competing with our industry. They are working hard to catch up on the years when development of transports was virtually impossible. They have not caught up yet. Outside of a few bomber conversions, some airplanes, and some types being rushed to compete with already obsolete U. S. transports, they have little that is ready for sale to their own transport organization or abroad.

Thus, the British industry finds it necessary to maintain a high level of optimism in its publicity. The releases of the Society of British Aircraft Constructors, the industry trade group, and the notices in the British press generally, are consumed with assurances of splendid promise and performance.

Much of this is deserved praise for British designers and engineers. But a great part of the optimistic display of specific performance data remains meaningless unless translated by experts and compared with other planes. And in some of the publicity, the dividing line between promise and performance is hard to find. Information as to whether a plane is on the drawing board, in mockup, in test, or in production is often vague.

A case of this sort occurred when the lifting of Ministry of Aircraft Production restrictions recently made possible release of much accumulated data, including material on the Blackburn B-20 flying boat. This was an ingenious experimental model whose retractable planting hull gave propellers clearance above water for take-off, but reduced the amount of profile surface in flight. The B-20 was hailed as an achievement of British talent and its photographs were well circulated. But little mention was made of the fact that it was built and flown in 1940, crashed, and left alone ever since.

It is foolish to underestimate British technical talents, or the aggressive world-wide sales efforts of the British government in cooperation with its industry, which our own State Department could well study. But at the same time there is no need to be alarmed by the sudden influx of publicity from the other side of the Atlantic, because the competition of British manufacturers will have much less effect here than the sharper rivalry of our own U. S. transport plane manufacturers.

Spurring All-Weather Flying

THE ANNOUNCEMENT of United Air Lines by its president, W. A. Patterson, that it is ready to spend \$10,000,000 for purchase, development and adaptation of electronic and other technological aids used by the armed forces during the war is heartening. United's announcement has reopened the rest of the air transport industry, which has given little time or attention to radar and instrument landing arrangements on a national scale. The airline publicity spotlight has been pinned to guest airlines of the future whose economical efficiency will be no better than the DC-3 or the Ford tri-motor if weather keeps them on the ground, and financial losses from idle DC-7s and Constellations will be staggering. Industry meetings which accomplish something on all-weather operations are in order.

ROBERT H. WOOD

The New Type Rotating and Stator Seals

Another reason why
engineers and designers
LOOK TO COOK
for new and improved
components for their
new and better products



GYRO SEALS OFFER MANY ENGINEERING ADVANTAGES

Gyro Seal construction is new in design and new in principle: the constant spring rate, inherent in the "Spring-life" bellows, makes the use of auxiliary springs unnecessary when Gyro Seals are used. Camshaft problems are readily overcome because "Spring-life" bellows can be made of all types of metals and the specific type of bellows is selected to suit conditions of each application.

Gyro Seals will operate on both external and internal pressure and have been built to withstand 5,000 lbs. p.s.i. They will operate in a range of from slower than 1 R.P.M. to faster than 10,000 R.P.M. Lapped finishes of sealing members can be furnished to within one light wave of finish.

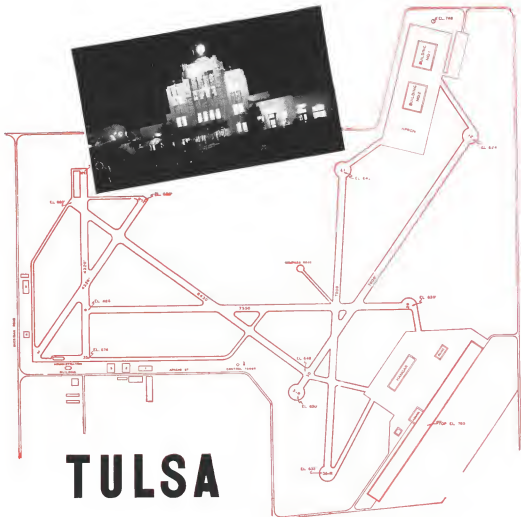
Gyro Seals after passing the most rigid laboratory tests, and after meeting more than the requirements expected of them in tests in the field, have truly become a worthy addition to the line of advanced "Spring-life" bellows products.

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TULSA

ONE OF AMERICA'S GREAT AIRPORTS

THANKS to the progressive cities and towns all over the country now developing new airports, or expanding their present facilities, post-war flying in the U. S. will be much more pleasant, convenient and faster than ever before.

Long noted for its outstanding service is the Tulsa Municipal Airport — a steadily profitable and growing operation since its inception in 1928. Although Tulsa clears more than 500 ships daily — military, commercial and incidental flights — facilities are so coordinated that the private flier's in-and-out time is cut to a minimum. Fueling and plane check-up are prompt. Weather reports and clearances are readily obtained. This is the kind of service that brings fliers back again and again.

At Tulsa, too — as at other progressive airports

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